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THE ESSENTIAL GUIDE TO CLASSIC GAMES
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HOW ID WENT FOR GUTS AND GLORY WITH ITS GIB-PACKED SHOOTER
EXPOSING R-TYPE II
THE ULTIMATE GUIDE TO IREM'S ROCK-HARD ARCADE SEQUEL
"WE WERE GOING FOR FUNKY ENTERTAINMENT!"
DAYTONA USA™
TOSHIHIRO NAGOSHI AND CREW REVEAL HOW SEGA'S RACER DOMINATED ARCADES
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SEE PAGE 30
HORNET HIGH-CLASS
NAVIGATING THE OREGON TRAIL
HOW THREE TEACHERS MADE THE WORLD'S MOST POPULAR EDUTAINMENT GAME
+ COOL SPOT BRIAN COLIN THUNDERJAWS ATARI 2600 EMERALD SOFTWARE SNES LOADED EYE OF THE BEHOLDER
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THE RETROBATES

HOW WOULD YOU DIE ON THE OREGON TRAIL?



DARRAN JONES

I've always wanted to go out in a blaze of glory, but I'd imagine it would be something like getting crushed by my wagon after I tried to fix its broken wheel.
Expertise:
Juggling a gorgeous wife, two beautiful girls and an award-winning magazine
Currently playing:
The Legend Of Spyro: The Eternal Night
Favourite game of all time:
Strider



DREW SLEEP

Darran would push me off the kart and into a snake pit. Retribution for me knackering his arcade machine's buttons while playing *Combat School*.
Expertise:
Listening to Eighties soundtracks while skating along Bournemouth beach
Currently playing:
Octopath Traveler
Favourite game of all time:
Final Fantasy VIII



NICK THORPE

Animals tend to look at me like I look at pizza, so I'd almost certainly fall victim to a vicious snakebite.
Expertise:
Owning five Master Systems (I sold two)
Currently playing:
Sonic Mania Plus
Favourite game of all time:
Sonic The Hedgehog



SAM RIBBITS

Crazy idea: what if I'd made it to Oregon without dying…? No you're right, that's a silly thing to say. Probably good ol' dysentery then, I guess.
Expertise:
Carbuncle hide-and-seek
Currently playing:
Hollow Knight
Favourite game of all time:
Croc: Legend Of The Gobbos



LUKE ALBIGÉS

Zombies – I prefer *The Organ Trail* for my bleak pixellated coast-to-coast wagon-based futility exercises.
Expertise:
Not getting dysentery
Currently playing:
Octopath Traveler
Favourite game of all time:
Micro Machines: Turbo Tournament '96



GRAEME MASON

Probably dehydration or exhaustion through drinking too much coffee and not enough water!
Expertise:
Adjusting the tape azimuth with a screwdriver
Currently playing:
Prey
Favourite game of all time:
Resident Evil 4



JASON KELK

I'd probably be murdered by everyone else for complaining about the lack of Wi-Fi.
Expertise:
Being a homebrew hero
Currently playing:
Starr Mazer
Favourite game of all time:
Io



PAUL DRURY

I'd like to pass away from good old-fashioned measles. Such a retro way to go.
Expertise:
Brian Colin's Hawaiian shirt collection
Currently playing:
Kevin Toms World Football Cup
Favourite game of all time:
Sheep in Space



DAVID CROOKES

Most likely from some horrid disease such as typhoid or cholera. Never a good way to go.
Expertise:
Amstrad, Lynx, adventures, Dizzy and PlayStation (but is it retro? Debate!)
Currently playing:
BMX Simulator
Favourite game of all time:
Broken Sword

LOADING...



While *OutRun 2* will always be my favourite Sega arcade racer, I've got a special soft spot for *Daytona USA* as well. Like *OutRun 2* it sums up everything that's great about Sega as an arcade manufacturer: clear blue skies, amazing music, astonishing graphics and solid game mechanics. It's a fantastic racing game and there's even a dinosaur-themed track. What's not to love?

I would regularly play *Daytona* when it was in the arcade at Bournemouth pier and Poole arcade and it was one of the first games that I picked up for my Saturn. More recently I downloaded the PS3 version and while it's close to arcade perfect, nothing matches sitting down in an original cab and powering round those corners as those fruit machine reels spin above you.

It's tremendously exciting, then, to have four of the key members of the original *Daytona USA* team, including director, Toshihiro Nagoshi, who all give fantastic insights into how the racer was made.

And if for some reason you're not a fan of Sega's sublime racer, we've got plenty of more retro brilliance for you, including two articles on *R-Type II*, The Making Of *Quake* and *The Oregon Trail* as well as an entertaining interview with *Rampage* creator, Brian Colin. There really is something for everyone.

Enjoy the magazine!



EXCLUSIVE SUBSCRIBER COVER

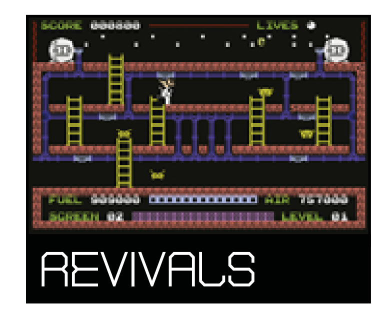


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>> Load 184 Breathing new life into classic games



RETRO RADAR



REVIVALS

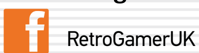


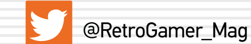
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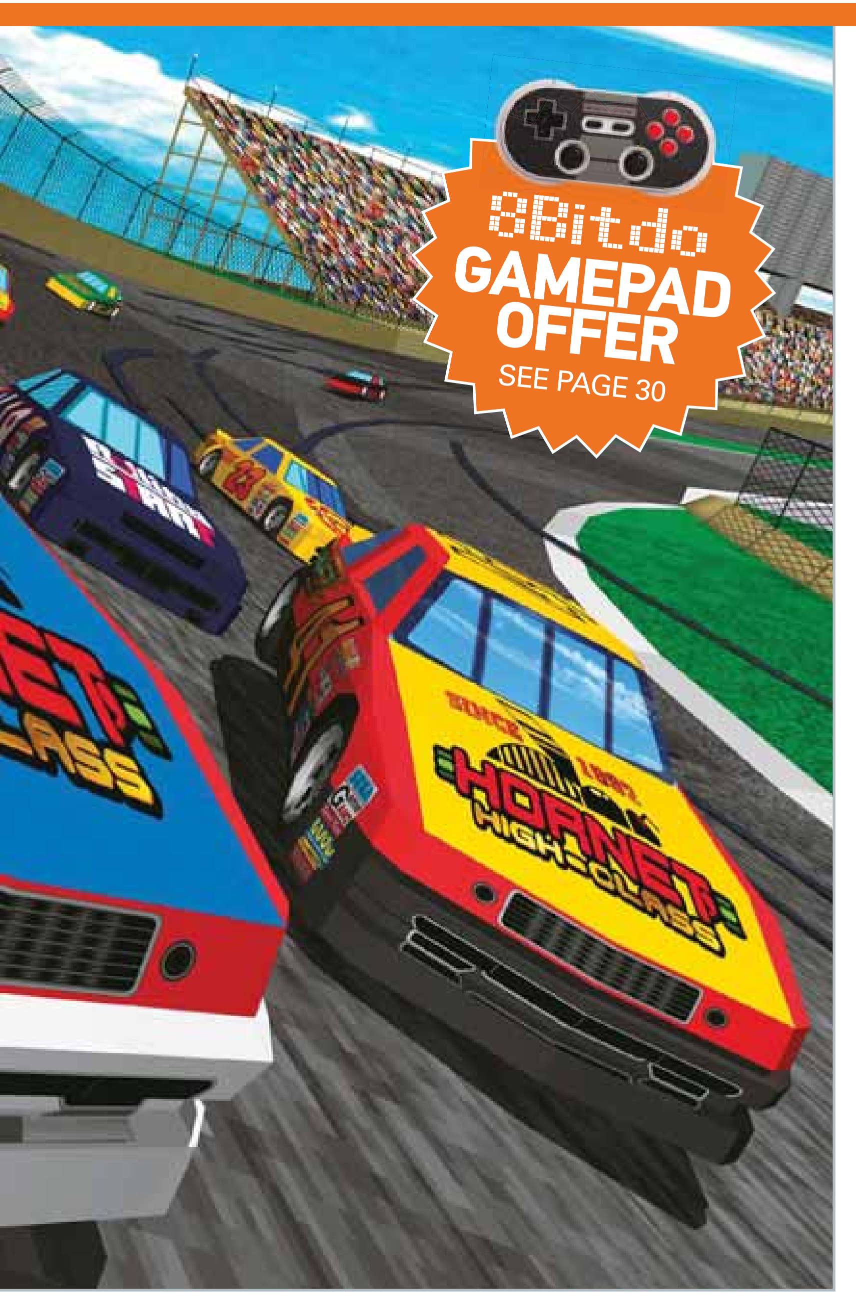

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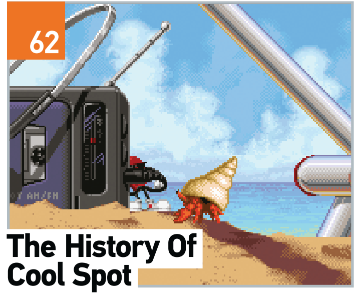

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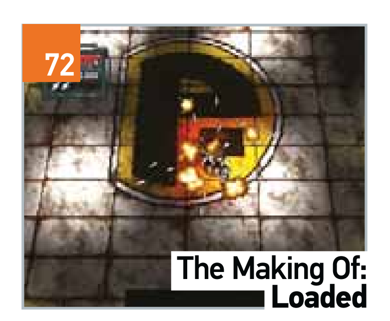

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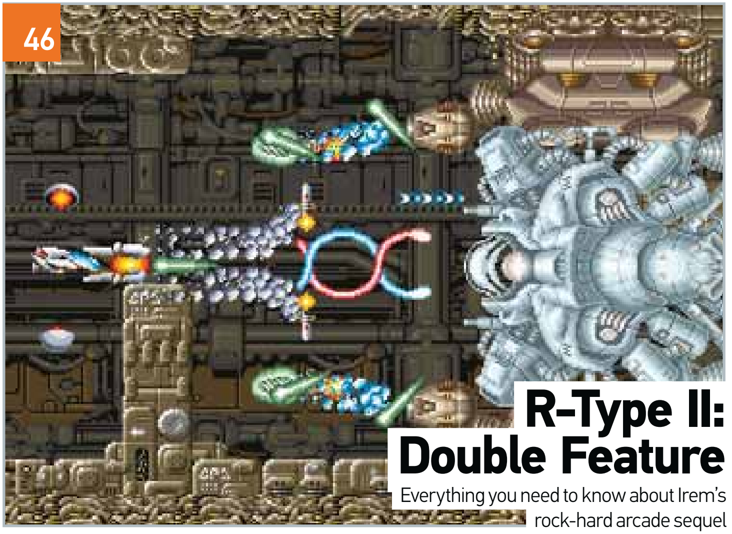
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REVIEWS

ESSENTIALS



BBC OPENS COMPUTER ARCHIVES

Hundreds of TV shows and BBC Micro programs can be viewed and enjoyed



CONTENTS

» Jake Berger is heading up the archival project at the BBC.

In the Eighties, the BBC was so keen to promote home computing, it launched a national initiative called The Computer Literacy Project. Over the course of 146 programmes, it sought to teach people about the latest technology and highlight some of the early innovators, inspiring a whole generation of coders – many of whom grace the pages of this very magazine today.

Now, in celebration of that decade-long run, the BBC has produced a fascinating online archive packed with content from the era. As well as the aforementioned 146 shows in full, there are 121 related programmes, 2,509 searchable clips and even 166 BBC Micro programs originally used on-screen.

The latter can be run directly in an online BBC Micro emulator with a simple click of a mouse. The emulator (jsbeeb which has been coded in Javascript) also works without any software if you want to get your hands dirty with BASIC.

It's nothing if not comprehensive, that's for sure, but then that was the intention. "We wanted to include everything – every single programme that was produced for the original Computer Literacy Project, plus all of the software programs that were written by Steve Lowry and Ian Trackman for use on air to illustrate principles in the TV programmes," says Jake Berger, executive product manager for BBC Archive Development.



» Steve Jobs gives an interview to the BBC in 1987 after leaving Apple and starting work on new workstations.

"We also wanted to include documentation, such as the manual for the BBC Micro and various other BBC reports from the time," Jake continues. "We actually went beyond this – adding over 100 'related' BBC programmes which we felt would be of value to people interested in computing and technology. These 'related' BBC TV and Radio programmes continue the story of the BBC's mission to help Computer Literacy up to the present day."

The concept emerged from a meeting of retired BBC staff and others involved in computing in the Seventies and Eighties at The National Museum of Computing in Bletchley Park where BBC Micros are still used almost daily in a classroom with school parties.

"David Allen [BBC Computer Literacy Project series editor and producer] and Steve Lowry [the project's technical consultant] felt that the Computer Literacy Project programmes should be gathered together and somehow made available to the public," Jake explains. "This initial thought then turned in to three years of hard work, finding the programmes and the people who made them, and then beginning the mammoth task of creating and describing the thousands of programme sections – the clips – that you can view in the new online archive."

The archive also includes pages explaining the contribution the project made to Britain's computing history and this is fascinating in and of itself. There are six sections in total, with the main ones split between 1982-1983 and 1983-1989. It's here where you can find a BBC Basic User Guide and a booklet called Towards Computer Literacy from 1984 which explained the project up to that point. There's also a



» The archive has taken more than three years to pull together.



» Check out 166 BBC Micro software programs, all of which featured in TV shows on the BBC.

wonderful timeline that shows how the BBC project fitted in with the wider history of computing. The archive really is a labour of love.

"There are several aims of the archive," Jake says. "Firstly, it offers a snapshot of the era – an important decade in the history of computing in the UK, which has a general nostalgic attraction to people who remember the late Seventies and the Eighties. Secondly, we feel that many of the principles explained in the programmes remain relevant today, and in particular, many of the fundamental elements of how computers work – at a basic hardware and software level – are not well understood by more recent generations of developers and engineers.

"Finally, we wanted to build a web-based archive that acts as an exemplar of what you can do with video material if you take the time to segment it and describe it to a very high level of detail, making use of the knowledge in the heads of the people who actually made the programmes. We hope that it sets a new 'standard' in terms of findability, and are very pleased with how the 'Explore' feature of the site works, with both keyword and topic search and filtering. This was only possible because of the work that Steve Lowry undertook, spending years describing every section of the each of the 267 programmes."

> **"We wanted to include everything – every single programme that was produced for the original CLP"**
> Jake Berger

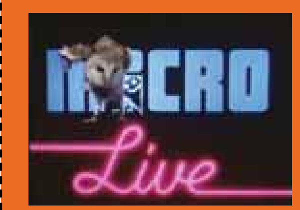
So far, the social media response to the archive has shown there are many people who remember these programmes with great fondness, and Berger says scores of visitors have revealed they owed their interest in computing – and often their careers – to watching these programmes in their youth. "We feel that the archive fits in well with the resurgence in interest in coding, and with devices like the Raspberry Pi and the micro:bit being used in schools and coding clubs," Berger continues, referring to the barebones computers that have become popular in recent years (the micro:bit was handed to a million schoolchildren across the UK in 2016).

But what of the future for the Computer Literacy Project? Will more archived content be added and, indeed, is anything missing? "Some programmes were harder to find than others but, in the end, we have managed to offer a copy of every programme," says Jake. "As you'll see on the site, some are better quality than others. We intend to try to find better quality versions of some of the low quality ones and add them to the site over time." *



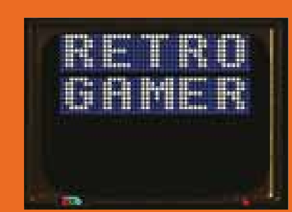
» It's also a good opportunity to observe the fashions of the day, such as Ian McNaught-Davis' jumpers.

WHAT'S ON?



MICRO LIVE
Series 1, Episode 4
Presenter Lesley Judd drives around the 'doughnut' at BBC Television Centre in a Sinclair C5, before making the first ever broadcast of a transatlantic phone call using a 'mobile' telephone. "I'm not having a lot of joy with this," she says before eventually succeeding.

MAKING THE MOST OF THE MICRO
Series 1, Episode 1
This live show contains the famous on-air broadcast interrupt where signal hijackers interrupted John McColl's demonstration of an early electronic mail service. With laughter in the studio, McColl brushes the incident aside, lightheartedly saying, "We want to do a demonstration here, so go away."



BBC MICRO SOFTWARE
fstlet1
The simplicity of fstlet1 is worth checking out and it's one of Jake Berger's favourites. It loads a graphic program that lets you see the 'dot matrix version' of any character that you type on the keyboard (as an 8x8 matrix of dots).

BBC MICRO SOFTWARE
AARGH
Jake also likes AARGH which runs an out-of-key music-playing program. "It's a very easy way to annoy everyone in the office," he tells us. And given our brief experience of it, he's not wrong, we can tell you.

COMING ON STREAM

STEVE COTTAM TELLS US ABOUT ANTSTREAM, A BRAND-NEW RETRO ON-DEMAND SERVICE

With the continued rise with streaming services like Netflix, Spotify and Amazon Prime it's inevitable that videogames will follow suit. The latest on-demand service to rear its head is Antstream, which is of particular interest to us because it's largely focused on classic retro games that range from arcade classics to home computer and console heavy hitters.

The service sounds like an incredibly bold move and just the thing for classic gamers, wanting a legal, official way to play classic games. Input lag is always an issue with services like this, though, so we were keen to know how Antstream intends to combat it. "With any streaming service, achieving low latency and a solid user experience is absolutely vital," explains Antstream's founder and CEO, Steve Cottam. "We have an amazing technical team of engineers who are passionate about shaving those vital milliseconds off the delivery of the stream. The other important factor is ensuring the servers are as close to the gamer as possible. We work closely with one of the few data centre providers globally with the capacity to spin up high volumes of servers anywhere in the world."

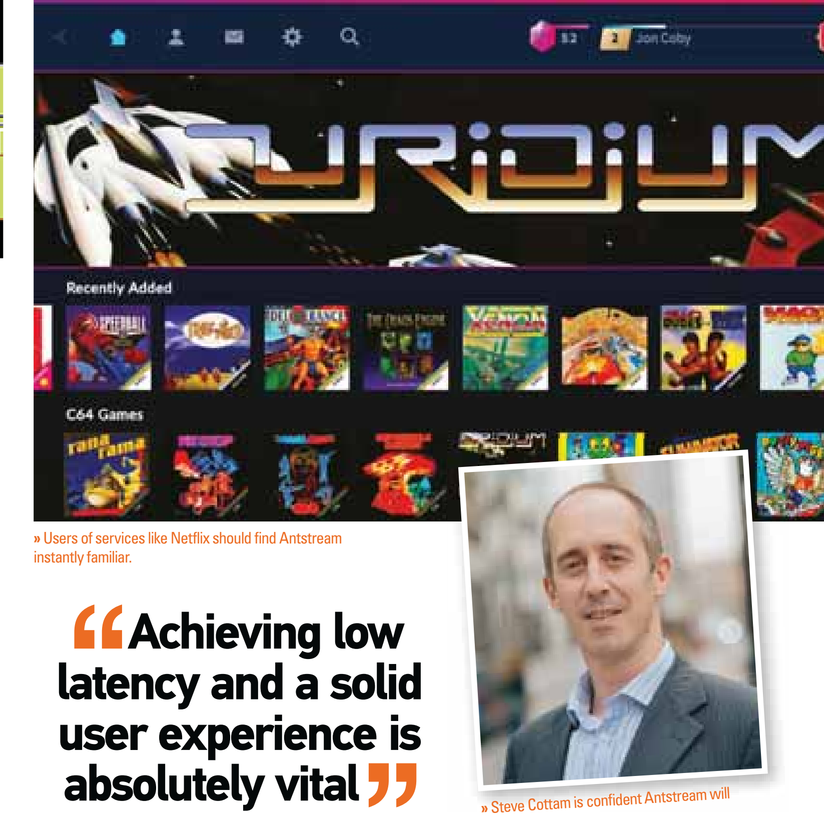
In addition to being confident about Antstream's latency, Steve is also proud of the games that have been officially secured. "So far we have licensed over 2,000 games for platforms including arcade, consoles such as Mega Drive and SNES, and your favourite home computers like the C64, Amiga, Spectrum and BBC," he continues. The team has been working on Antstream for nearly five years and it has been making numerous tweaks to classic games to ensure that there are plenty of ways to enjoy them. "Any of the games on our system can be controlled with game pads, keyboard controls or our touchscreen interface, and we've extensively reworked the controls to make them playable on all three inputs," explains Steve. "So it'll be a great experience however you choose to play!"



» [C64] There's a great range of classics already secured for the service, including Graftgold's *Uridium*.



» [Amiga] Games like *Speedball 2* will be a good test for latency. Hopefully Antstream can solve it.



» Users of services like Netflix should find Antstream instantly familiar.

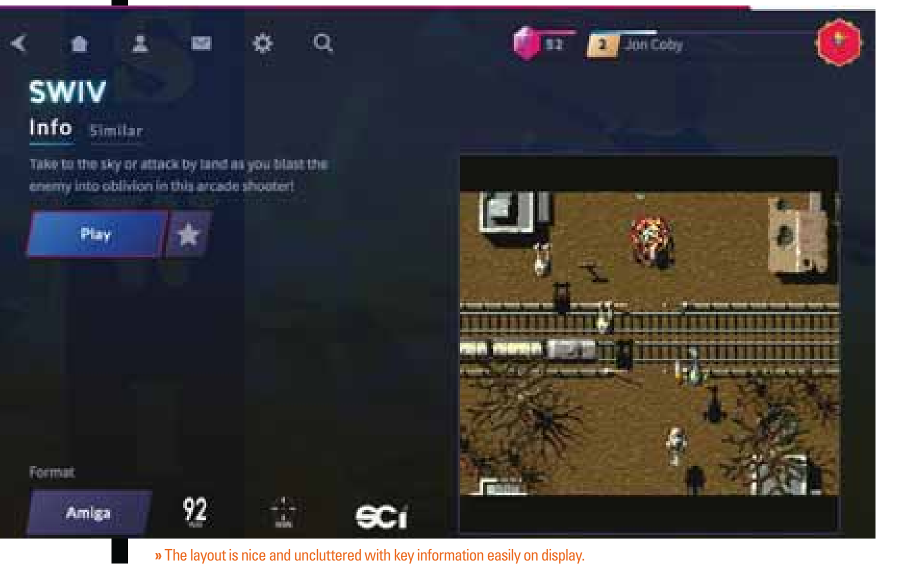
» Steve Cottam is confident Antstream will be a big success.

> "Achieving low latency and a solid user experience is absolutely vital"
> Steve Cottam

In addition to reworking controls the team have remastered artwork, and have added neat game enhancements like boss rushes and score attack trials. It really sounds like a lot of work and thought has been put into it.

In some ways it reminds us of Microsoft's Games Room, but that ultimately died a death thanks to a lack of strong support from key game publishers. Antstream already looks to be off to a super start with games as diverse as Data East arcade classics like *Joe & Mac* and *Dragon Ninja* to home computer classics like *Speedball 2* and *Uridium*. But who else can we expect to join the service? "We are looking forward to announcing some of our partners very soon," Steve teases, "and rest assured they certainly will include some of the biggest names in videogames."

While we certainly have concerns with latency there's no denying that Antstream has the potential to be something truly special and we applaud the strong focus on securing licence agreements. Steve is certainly confident that Antstream will be in a strong place in five years time, telling us: "Ultimately the plan is that Antstream will become a distribution channel for any videogame. We're starting with retro, because it gives us a vast catalogue of classic, much-loved games, many of which haven't been widely (and legally) available for over a generation. However in the longer term we want to offer a platform from which anyone can distribute any game, to any player, on any platform. Streaming is going to revolutionise all aspects of gaming, just as it has done for movies, TV and gaming, and our plan is for Antstream to be at the forefront of this revolution." *



» The layout is nice and uncluttered with key information easily on display.



» [Amiga] Antstream has secured a variety of different games, from the Amiga and C64 to the Mega Drive.

Dinosaur Pie Canvas and Prints

Ex-Ocean artist, Simon Butler has recently moved into creating pixel art and his work is absolutely lovely. While there are a few videogame-related pieces (including the Oliver twins and the bosses of Ocean Software) he's mainly focusing on films, TV and music and the results are fantastic. The delightful designs cover everything from Freddie Mercury and The Beatles, to *Austin Powers*, *Batman* and *The Goonies* and all are instantly recognisable. There are even pixel versions of classic vinyl like *London Calling* by The Clash. Art is available on 5x5 inch pictures (with frames) 10x10-inch canvasses, mugs and T-shirts and the collection is constantly expanding.

Price: £9.99 - £25 **From:** dinosaur-pie.co.uk



PICK OF THE MONTH

Shadow Of The Colossus Vinyl

Kow Otani's stunning orchestral score has finally been released on vinyl and iam8-bit has pulled out all the stops to ensure it makes its way into your collection. All 35 tracks are included and they sound phenomenal, with the battles sounding particularly punchy. Spread across two translucent LPs (one clear, the other blue) it's all housed in a stunning trifold design that finished off by Nimit Malavia's sensational artwork. It's a true work of art that deserves to be in everyone's personal collection.

Price: $40 **From:** iam8bit.com

Classic IntelliMouse

The original Intellimouse was released in 1996 and deemed highly innovative upon release. Microsoft has continued to improve on its original elements and have now released a new model based largely around the IntelliMouse Explorer 3.0. Comfortable to use and with three customisable buttons it features bluetrack technology and requires a USB connection.

Price: £39.99 **From:** amazon.co.uk



A History Of Video Games In 64 Objects

While the title is a little misleading (there's an entry on *Dungeons & Dragons* and other non-videogame products), there's no denying that this is an enjoyable read. Created by two PhDs, Jon-Paul C Dyson and Jeremy K Saucier, it's filled with fascinating information about its 64 topics and has some truly gorgeous photography. It's a little US centric (there's virtually nothing on the European home computer scene for example) but that's the only real complaint we have of this tome.

Price: £20
From: amazon.co.uk



The Ultimate 80s Collection

Our latest bookazine celebrates everything that's great about the Eighties, from *Thundercats* to *Pac-Man*. Gaze upon fantastic articles on *He-Man*, *Transformers* and the *Teenage Mutant Ninja Turtles*, learn about the greatest films and TV shows of the Eighties and get transported back to simpler times when all you had to worry about was which new Sylvanian Families toy you were going to save up for, or how many sides of a Rubik's Cube you could complete.

Price: £9.99
From: myfavouritemagazines.com

Here's my bio... Paul Rose
Paul Rose is probably better known as Mr Biffo – the creator and chief writer of legendary teletext games magazine *Digitiser*. These days, he mostly writes for kids TV, but can still be found rambling on about games, old and new, for his daily website, Digitiser2000.com.

Ahead of their time

The history of gaming is littered with well-intentioned failures, flat-out disasters, and cynical, half-baked attempts to surf the zeitgeist. However, something I've come to realise is that – for all the warm, nostalgic, glow I may get from manhandling a ZX Spectrum, or an *Astro Wars* machine – it's the also-ran hardware which I find more interesting than those which were a commercial success.

Often, these systems arrived at the wrong time, or were too ill-considered, or were too esoteric to ever find a foothold. The boldness of many of them is what I find myself appreciating. They're the systems which took a risk, and in some cases paved the way for others to improve upon their noble experimentation.

We all know about the Virtual Boy – Nintendo's first ill-judged foray into 3D – but less documented are systems like Tiger's *R-Zone*. Released the same year as the Virtual Boy, it boasted a sort of heads-up display which projected a bog-standard LED handheld game onto a screen that hovered just in front of the user's eye. They released a tabletop version – which used a terrible screen akin to one of those old Seventies slide-viewers my parents had for their family photos – and it was so monumentally stupid, it's hard not to love it.

Equally stupid-but-loveable from Tiger was the Game.com – a black and white Game Boy challenger (released a full eight years after the full-colour Atari Lynx), which had a touchscreen and internet connectivity. Somehow, Tiger acquired the rights to release versions of *Sonic the Hedgehog*, *Resident Evil* and *Duke Nukem* on the system. It all sounds good until you actually play the thing, and realise it had one of the worst displays in gaming history.

Grandstand is best known for its many, many tabletop and handheld LCD and LED games – having begun life releasing *Pong* clones – but it too dabbled in releasing a console with interchangeable cartridges.

However, Grandstand Light Games was no mere TV-based consoles; it featured a built-in projector, allowing you to play games on your bedroom wall, or a cow's stomach. It's a great idea, way ahead of its time, but the fuzzy projection, and the basic LCD graphics, rendered it all but pointless.

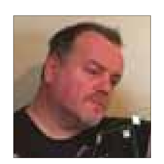
Thing is, machines such as these – or the lost-forever Konix Multisystem – have, in their own way, made a valid contribution to gaming history. Alright, you might not want to spend the rest of your life playing the R-Zone instead of a GameCube, but who's more entertaining to talk to at a party; somebody who has their shiz together and will drone on about curtains and real estate who has never taken a risk in their life, or the one with the psychological scars with tales of failure to tell?

Where once we might have scoffed at these audacious follies, it's long overdue that we stopped dismissing them, and embraced them as a vital part of gaming's heritage. Or at least, paused to consider these for five or ten minutes before resuming our pointing and laughing. *

> "Equally stupid-but-loveable from Tiger was the Game.com"

Do you agree with Paul's thoughts? Contact us at:

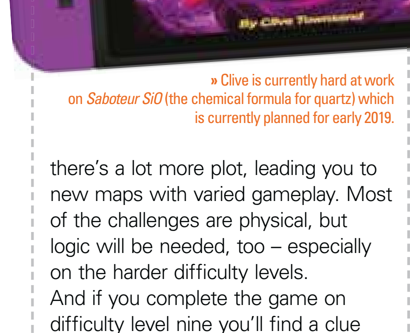
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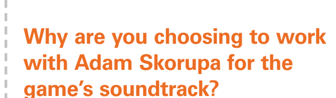


Sneaking onto Switch

Clive Townsend on remastering Saboteur for a new audience

S*aboteur* proved to be a huge hit for Clive Townsend when it was released in 1985, leading to a sequel, *Avenging Angel* in 1987 and a long-gestating third game that Clive is still eager to make. First, though he's ramping up for a Switch update of his PC remake that appeared in 2015. Here he tells us a little more about it.




» Clive is currently hard at work on *Saboteur SiO* (the chemical formula for quartz) which is currently planned for early 2019.

What changes have you made over the original *Saboteur*?
Where to start! The new game is about seven times bigger and tells the story leading up to *Saboteur II*. And both games together reveal plot elements, which converge in *Saboteur III* and *Saboteur IV*. People have been asking questions about *Saboteur II* for 30 years, so hopefully now they'll have all the answers they need. The original 8-bit games were just the tip of the iceberg.

Are you introducing any new game mechanics?
Plenty! The first bit of the game uses the exact same logic as the 1985 version, so any tricks you remember can still be used. After the first level there's a lot more plot, leading you to new maps with varied gameplay. Most of the challenges are physical, but logic will be needed, too – especially on the harder difficulty levels.
And if you complete the game on difficulty level nine you'll find a clue to my favourite 8-bit graphics and my favourite 8-bit music.

Why are you choosing to work with Adam Skorupa for the game's soundtrack?
I was lucky enough to meet Adam at Pixel Heaven in Poland recently. We talked about *Saboteur* over a few beers and it turned out he was a big fan. He's also good friends with Emil Leszczynski at SimFabric (responsible for porting and publishing *Saboteur* for Nintendo Switch), who suggested that we collaborate on the project. I jumped at the chance to work with such a high-profile musician!

How will this version improve on the 2015 PC version?
Emil from SimFabric plans to make nine language versions for all NS regions, for example: Russian, Japanese, Polish, German, Spanish, Portuguese, Italian, French and maybe more. As well as the new dynamic music, Adam Skorupa is preparing new sound effects and says we're going to love them. On top of that, part of the SimFabric team are preparing special graphics and artwork for the Switch version, and a brand-new trailer.



» [Switch] Clive promises an authentic experience alongside some new tweaks and extras.

> "Hopefully people will appreciate games can have depth and don't need to rely on fancy graphics"
> Clive Townsend

Saboteur will be emulated to look like eight different classic systems. How difficult has then been to achieve and which is your favourite?
The game has been written using Unity, which doesn't support 2D games very well. So even creating a game with sprites has been quite difficult. But the hardest – and most fun – bit of code was the routine to mimic the Spectrum/C64 display. I could have just done a Speccy-style game but I really wanted an authentic attribute system. It's much more of a challenge creating graphics when you have to avoid colour clash. The Amiga sprites (created by Ricardo Oyón Rodríguez) are exceptional but it's also amusing to watch the dogs chase you in ZX81 mode!



» [Switch] The remaster emulates the look of many systems including the ZX81, Spectrum and Amiga.

Why do you think there's still so much interest in the game?
There's definitely a lot of love for *Saboteur* in the retro community. The original games came out at the height of the ninja craze so that helped its popularity. And many modern games seem to be style over substance, so hopefully people will appreciate that games can have depth and don't need to rely on fancy graphics. As well as nostalgia, there's actually a lot more in these versions, ranging from science fiction to psychology and metaphysics. And you get to flying kick people. *

***Saboteur* will be released autumn this year on the Nintendo eShop.**



» [Switch]The rainbow stripe at the bottom of the screen is a nice touch.

BACK TO THE NOUGHTIES

AUGUST 2001 – It's time for the post-E3 lull, which means low-profile games get the chance to shine when they might otherwise be overshadowed. Did any pull off this feat? Nick Thorpe gazes into the time vortex to find out

NEWS AUGUST 2001

On 3 August the Real IRA, a dissident Irish republican paramilitary group, detonated a car bomb in Ealing Broadway, West London. Seven people were injured and over £200,000 of property damage was caused, but there were no fatalities. The bomb was targeted at people leaving a pub, but failed to cause as many casualties as the bombers hoped.

Haakon, Crown Prince of Norway wedded Mette-Marit Tjessem Høiby on 25 August after an eight-month engagement. The matter had proven controversial in Norway – not only was the bride not of royal descent, she also had a child from a previous relationship. Further still, allegations of past heavy partying and drug use were made in the press. While support for the monarchy hit lows during this period, King Harald V was supportive of his son's decision.

Also on 25 August, nine people including the 22-year-old American recording artist Aaliyah were killed in a plane crash in the Bahamas after filming a music video. The Cessna 402B plane was 320kg overburdened at take-off and carrying one more passenger than it was licensed for, and crashed 60 metres from the end of the runway. Toxicology reports revealed that the pilot, Luis Morales III, had traces of cocaine and alcohol in his system at the time of the crash. Further, it was discovered that Morales was not authorised to fly the plane.



[Game Boy Color] Capcom's twin *Zelda* adventures are too often forgotten when discussing great Game Boy games.

THE LATEST NEWS FROM AUGUST 2001

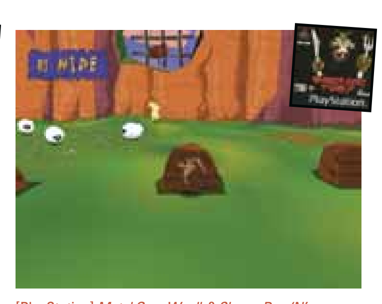
After all the excitement of E3, the gaming world settled back into its holding pattern, waiting for the arrival of new hardware to kick things into gear. High-profile games for the existing platforms were thin on the ground, to say the least – *Dreamcast Magazine* had to pack its pages with a bunch of import reviews, and even then the best game of the lot was *Capcom Vs SNK Pro* – a minor update of last year's crossover one-on-one fighter that scored 91%. N64 owners were in the same boat – just two reviews graced the pages of N64 this month. Geraint Evans scored *Mario Party 3* 74% in an import review, describing it as "just another *Mario Party*," and the UK release of *Kirby 64* scored the exact same 72% it received for its import review two months prior.

Meanwhile, the PlayStation was being flooded with dross. No fewer than nine games received scores of 4/10 or lower from *Official PlayStation Magazine* this month, including the likes of *Mary-Kate & Ashley's Magical Mystery*, *Monster Racer* and *Spec Ops: Covert Assault*. The most unfortunate was *Batman: Gotham City Racer*, which the magazine felt "sets back PS1 gaming by years" and awarded 3/10. *Play* noted that the vehicles "handle like bricks on roller-skates" and gave it a damning 9%.

Interestingly, it was an unlikely pair of licensed games that saved the month for PlayStation fans. *World's Scariest Police Chases* was clearly inspired by *Driver*, but provided a strong take on the formula – not only did you occasionally have tasks like recovering abandoned evidence, you also received firearms with which to apprehend criminals. *Play*'s Will Johnston awarded the game 80%, feeling that it "benefits wholeheartedly from embracing all the cheese, corn and base appeal of the TV show, " and *Edge*'s 7/10 review described it as "surprisingly compelling." Then there was *Sheep, Dog 'N' Wolf*, a *Looney Tunes* stealth puzzle game in which Ralph Wolf has to steal sheep from under the watchful eye of Sam Sheepdog. With plenty of humorous moments and some deviously tricky tasks to pull off with the help of high-quality Acme products, the game earned 84% from *Play*.

On the PlayStaion 2, Treasure gave us *Freak Out*, a game in which a little girl with a cursed scarf has to rescue

[PC] *Gangsters 2* might have needed a chalk outline of its own, given *PC Zone*'s assassination attempt.



[PlayStation] *Metal Gear Woolly? Sheep, Dog 'N' Wolf*'s take on stealth action is pretty damn good.


[PS2] *Freak Out* isn't Treasure's best game, but even a B-tier game from this developer is usually pretty good.

[PlayStation] In this game everyone's a violent drug pusher that needs ramming off the road.


[PC] *Anachronox*'s use of the *Quake II* engine was considered somewhat anachronistic, even in 2001.

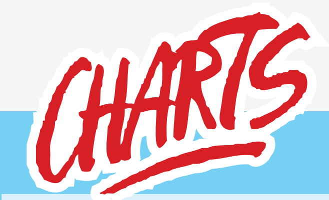
her possessed (and rather horrible) sisters. This is achieved by pinching, stretching and throwing things with the scarf in order to beat 12 bosses. *Edge* gave the game 8/10, praising the game for being "mindlessly enthusiastic and creative" but complaining that it was "too short, too insubstantial." Also on the PS2, Konami's time-looping RPG *Ephemeral Fantasia* arrived to tide over anyone waiting for more substantial fare. *Official PlayStation Magazine*'s PS2 section gave it 7/10, praising the game for "an amusing, bawdy script," while *Play* and awarded the game 64%, claiming that "any game where your first battles involve knocking out rats and beavers with your guitar, then pulling out a sword from your instrument's neck and finishing the vermin off has good points".

On the PC, Ion Storm's long-delayed *Anachronox* divided opinions. *PC Zone* felt that the sci-fi RPG "really does have a sense of a living environment" and that "for all its flaws, this is still a great game that deserves to be given a chance", with Mark Hill giving a score of 83%. *Edge* gave it 4/10, criticising it for a "dishearteningly superficial understanding of the Japanese RPG template that informs the title." *Edge* did like *Gangsters 2* – despite referring to the game as "deeply unfashionable," it scored 7/10. *PC Zone* was less impressed by the game and gave it a middling 55%, complaining that "the gameplay is repetitive, the AI is almost non-existent".

Handheld gamers might actually have had the best of things this month. Game Boy Advance owners were well-served so long as they were looking to beat people up, with retro re-release *Final Fight One* and *Fire Pro Wrestling* both getting 4/5 reviews. Top-down driving game *Matchbox Emergency Patrol* for the Game Boy Color also got 4/5, but the pick of the month was clearly *The Legend Of Zelda: Oracle Of Ages & Seasons*, the Capcom-developed Game Boy Color entries in Nintendo's famous action-RPG series. Not only did *N64* give them 5/5, the review called them "arguably the finest 2D *Zelda* titles ever".

Still, good things were on the horizon for everyone, judging by the preview pages. *Spider-Man 2: Enter Electro* looked to be a fun follow-up to the unexpectedly good PlayStation superhero game, and with *Tekken 4* hitting Japanese arcades, *Play* was eagerly predicting a Japanese PlayStation 2 conversion just in time for Christmas. In the nearer future, car combat was on the way to PS2 in the form of the rather bleak *Twisted Metal Black*. Thanks to an interview in *Edge*, it was still clear that Dreamcast owners had the inscrutable *Rez* to look forward to. Also lurking in *Edge*'s previews was news of an arcade follow-up to Treasure's legendary shoot-'em-up *Radiant Silvergun*, by the name of *Ikaruga*.

One last thing: September would also herald the arrival of Nintendo's latest console, the GameCube, which would be launching in Japan. Set your time machines on a course to next month to find out how that went. *



AUGUST 2001

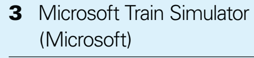
PLAYSTATION 2

1 Gran Turismo 3 (Sony)
2 Onimusha: Warlords (Capcom)
3 Red Faction (Eidos)
4 The Bouncer (Sony)
5 Crazy Taxi (Acclaim)



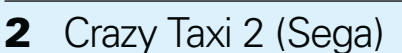
PC

1 Max Payne (Microsoft)
2 Operation Flashpoint (Codemasters)
3 Microsoft Train Simulator (Microsoft)
4 Baldur's Gate 2: Throne Of Bhaal (Interplay)
5 The Sims: House Party (EA)



DREAMCAST

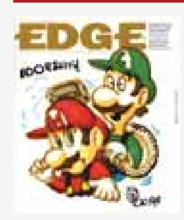
1 Sonic Adventure 2 (Sega)
2 Crazy Taxi 2 (Sega)
3 Shadowman (Acclaim)
4 Tee Off (Acclaim)
5 Jeremy McGrath Supercross 2000 (Acclaim)



MUSIC

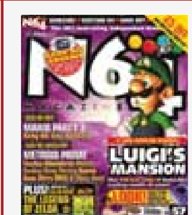
1 21 Seconds (So Solid Crew)
2 Eternal Flame (Atomic Kitten)
3 Ain't It Funny (Jennifer Lopez)
4 Castles In The Sky (Ian Van Dahl)
5 Eternity/The Road To Mandalay (Robbie Williams)

THIS MONTH IN...



Edge

This month marks a milestone for *Edge*, as it hits the issue 100 milestone. To celebrate the occasion, none other than Shigeru Miyamoto sketched out Mario and a vacuum-wielding Luigi for the front cover. Also, a special celebratory column was penned by *Edge* editor in chief (and current **Retro Gamer** brand director) Tony Mott.



N64

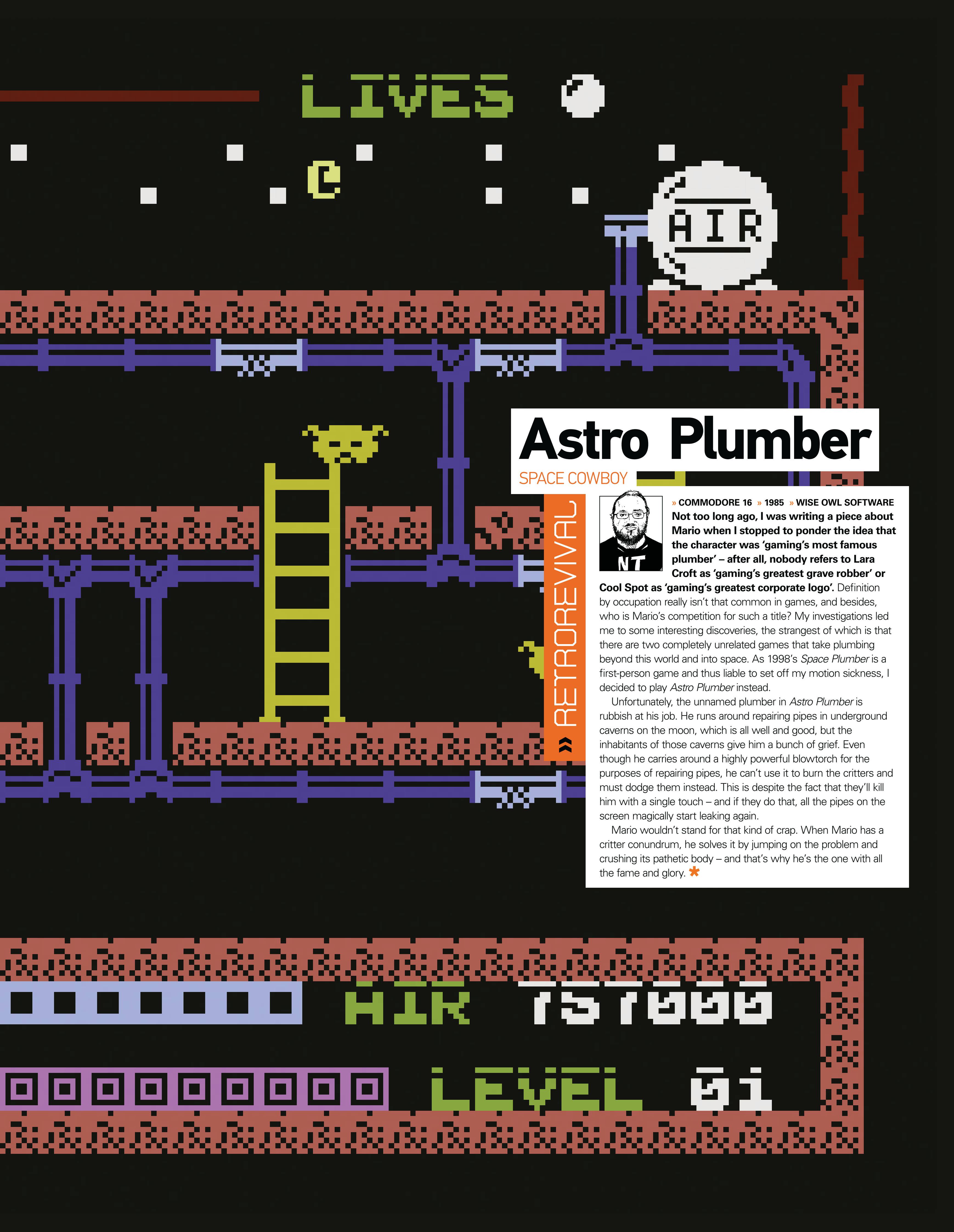
"Hurrah! THQ 'spring' into action after just *five months* of um-ing and ah-ing." That's how long it took for the publisher to respond to a game-breaking bug in *WWF No Mercy*, which wiped saved progress at random. Suddenly, the practice of downloading bug-squashing patches on modern machines doesn't seem quite so unpalatable.



Play

Reader Schöen emails in to the *Play* team: "To *Arena* friends, hi. This is Schöen, the one for Michael Jackson has had surgery for similar! Is there games which has in them a Michael Jackson as I love him and his Bubbles – not from Sony please. They close my site." We honestly can't work out why this didn't win letter of the month.


SCORE 000800
AIR
FUEL 909000
SCREEN 02



Astro Plumber

SPACE COWBOY

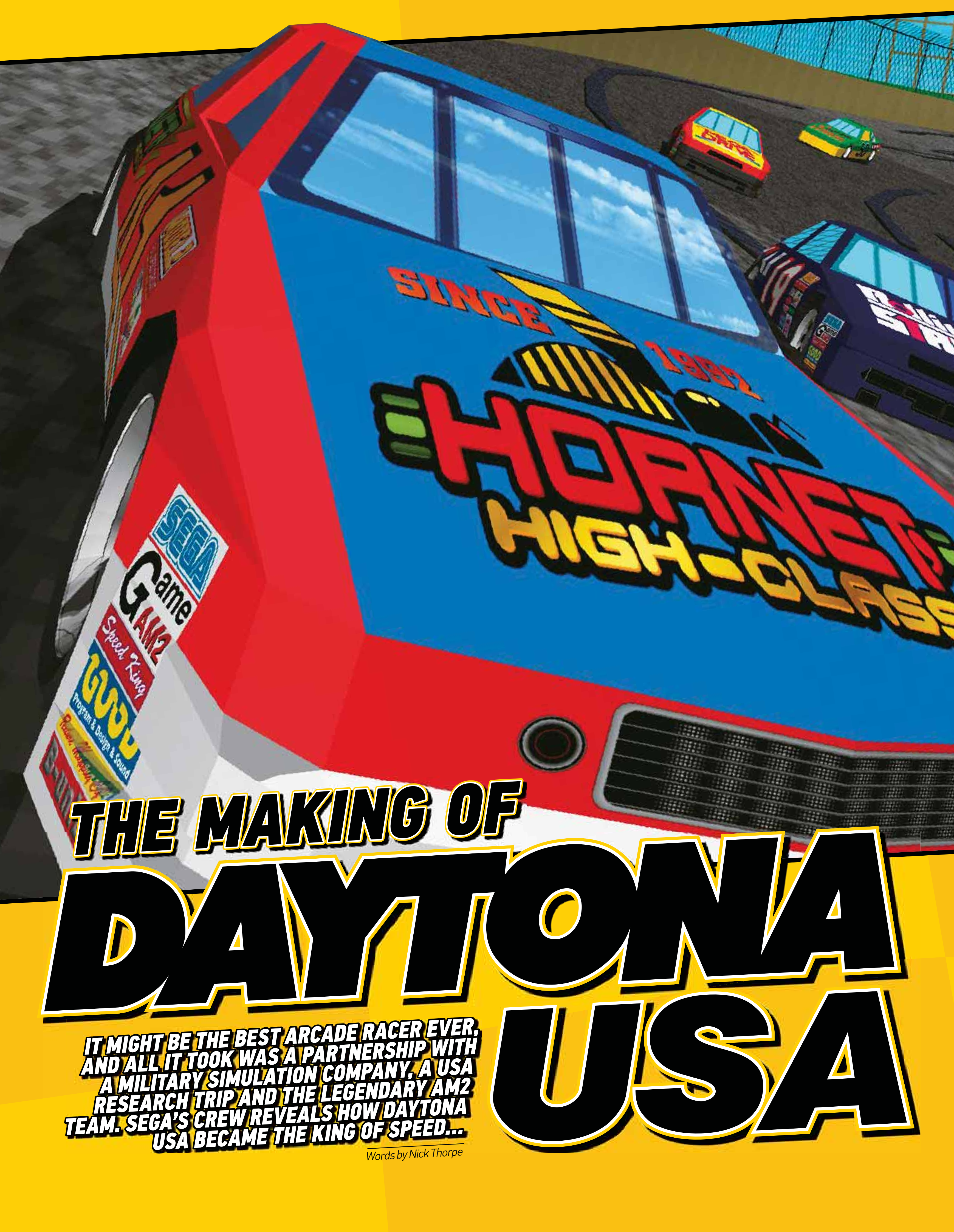
RETROREVIVAL

» COMMODORE 16 » 1985 » WISE OWL SOFTWARE

Not too long ago, I was writing a piece about Mario when I stopped to ponder the idea that the character was 'gaming's most famous plumber' – after all, nobody refers to Lara Croft as 'gaming's greatest grave robber' or Cool Spot as 'gaming's greatest corporate logo'. Definition by occupation really isn't that common in games, and besides, who is Mario's competition for such a title? My investigations led me to some interesting discoveries, the strangest of which is that there are two completely unrelated games that take plumbing beyond this world and into space. As 1998's *Space Plumber* is a first-person game and thus liable to set off my motion sickness, I decided to play *Astro Plumber* instead.

Unfortunately, the unnamed plumber in *Astro Plumber* is rubbish at his job. He runs around repairing pipes in underground caverns on the moon, which is all well and good, but the inhabitants of those caverns give him a bunch of grief. Even though he carries around a highly powerful blowtorch for the purposes of repairing pipes, he can't use it to burn the critters and must dodge them instead. This is despite the fact that they'll kill him with a single touch – and if they do that, all the pipes on the screen magically start leaking again.

Mario wouldn't stand for that kind of crap. When Mario has a critter conundrum, he solves it by jumping on the problem and crushing its pathetic body – and that's why he's the one with all the fame and glory. *



THE MAKING OF DAYTONA USA

IT MIGHT BE THE BEST ARCADE RACER EVER, AND ALL IT TOOK WAS A PARTNERSHIP WITH A MILITARY SIMULATION COMPANY, A USA RESEARCH TRIP AND THE LEGENDARY AM2 TEAM. SEGA'S CREW REVEALS HOW DAYTONA USA BECAME THE KING OF SPEED...

Words by Nick Thorpe

DAYTONA USA'S PIT CREW

The developers that helped Daytona rule the circuit



TOSHIHIRO NAGOSHI
Director and coproducer, *Daytona USA*



MAKOTO OSAKI
Game Planner, *Daytona USA*



DAICHI KATAGIRI
Programmer, *Daytona USA*



TAKENOBU MITSUYOSHI
Composer and vocalist, *Daytona USA*



PATRICK MICHAEL
Director, *Daytona Championship USA*

There aren't many game developers that have come to be specifically associated with common natural phenomena, but when you talk about Sega people tend to bring up blue skies. From the Green Hill Zone to *OutRun*'s Coconut Beach, many of the best Sega games seem to take place in a colourful eternal summer, where a car crash will only upset your partner a little and environmental destruction can be undone by a heroic hedgehog. *Daytona USA* fits right into that happy little world, and it doesn't just feature blue skies, it even has a song about them. The result is a game that doesn't just stand alongside the likes of *Turbo, OutRun, Super Monaco GP* and *Sega Rally* as part of a proud arcade racing heritage, but which perhaps defines it.

Daytona USA was the product of an arcade arms race. Companies were competing to have the most impressive hardware, and racing games seemed to be the chosen area of combat. Namco's *Winning Run* and Atari's *Hard Drivin'* had kicked the genre into 3D in the late Eighties, and Sega's *Virtua Racing* had set new standards for speed and detail in 1992, but the company was already looking at developing a successor to the Model 1 technology that powered that game. To do this, it entered a partnership with the American military simulator developer GE Aerospace, which was subsequently bought by Martin Marietta.

DAYTONA USA





» [Arcade] Using manual transmission allows for higher speeds and more nuanced control of the vehicle while drifting.



"I REMEMBER IT BEING QUITE A NEW EXPERIENCE FOR ME"

Toshihiro Nagoshi



One of the people involved in developing this new technology was Toshihiro Nagoshi, director and producer of *Daytona USA*. Although he worked on the software side of development, his presence was important due to Sega's design philosophy. "Sega as a company traditionally developed the hardware and software parallel," he explains. "Pushing hardware development forward alone would sometimes overlook the functions necessary for software development. There was also the risk of adding unnecessary functions. To avoid such situations, it's quite efficient to develop both the hardware and the software that would be running on it, at the same time." It was Nagoshi's involvement in this process that provided the concept for *Daytona USA*.

"When I went to the US to have a meeting about the Model 2 system board, I happened to get the tickets for a [NASCAR] race," remembers Nagoshi. "That was the first time I ever watched such a race, as in Japan, car racing typically meant Formula 1 for the vast majority of people. I remember it being quite a new experience for me." Nagoshi returned to Japan determined to create a stock car racing game – and not only did he get that wish, he led development as the director of the game and one of two producers (the other being Yu Suzuki). "It was a huge responsibility for me, but at the same time, this was a game implementing the new technology for the first time, and being able to create such a game as a leader is not a chance that comes by often," Nagoshi explains. "I tried my best to have as much fun as I could. But of course, in reality it was not that easy, and I often found myself stuck in thought."

In order to get the project off on the right foot, Nagoshi undertook plenty of research. "I consumed as many videos and books about NASCAR as I could get my hands on. However, despite the extensive research, it was difficult to convey the excitement and fascination of NASCAR racing to the staff in Japan at the time." One such member of the team who found himself confronted with an unfamiliar racing discipline was game planner Makoto Osaki. "I was not familiar at all with stock car racing," he confesses. "At the time Formula 1 was the motorsport trend in Japan, which I knew much more about." However, he took the job extremely seriously. "I bought a sports car," he responds when asked about the research he did for the game. "I also watched the movie *Days Of Thunder* more than 100 times!" We're not quite sure which action shows more dedication to the cause.

Programmer Daichi Katagiri wasn't hard to get on board. "I was very much interested in motorsports,

RACING DYNASTY

Daytona USA has been revisited frequently over the last 25 years



DAYTONA USA

SATURN/PC, 1995

■ The first major home conversion of the game is somewhat notorious for its poor framerate, letterboxed presentation and short draw distance. Despite these graphical deficiencies, the game plays authentically and boasts a proper CD rendition of the arcade soundtrack, as well as a Saturn/PC mode with additional cars.

DAYTONA USA CHAMPIONSHIP CIRCUIT EDITION

SATURN, 1996

■ This update fixes the graphical problems of the previous version, and adds new cars and tracks. However, the music has been remixed and most of the vocals have been removed, and the handling has been noticeably changed from the arcade game.





DAYTONA USA CIRCUIT EDITION

SATURN, 1997

■ For the Japanese market, *Daytona Championship Circuit Edition* was further revised. Handling was brought closer in line with the arcade game, graphical performance was improved further and the original music was added as an option alongside the remixed music.

DAYTONA USA DELUXE

PC, 1997

■ Based on the *Championship Circuit Edition*, this PC conversion is designed to run at a higher resolution than the Saturn game it was based on. It also boasts the return of the original Hornet and an additional track, Silver Ocean Causeway, which is found only in this version of the game.





DAYTONA USA 2

ARCADE, 1998

■ This is the only *Daytona USA* sequel to feature 100 per cent new content. The game features a choice of three cars and three new brand-new tracks to get to grips with – an oval inside a dome, a theme park and a city. The music has a harder rock feel, with Dennis St James and Takenobu Mitsuyoshi providing vocals.



» [Arcade] Eagle-eyed *Sonic* fans would be able to spot a cameo in one of the tracks.

IN THE KNOW

» **PUBLISHER:** SEGA
» **DEVELOPER:** AM2
» **RELEASED:** 1993
» **PLATFORM:** ARCADE
» **GENRE:** RACING

enough to buy a sports car myself. I used to follow Indy car racing, stock car racing, and Formula 1. I also played many racing games as well," he explains. His preparation for the game was similarly intensive. "I actually drove a car in real life and experienced its behaviour. I also played a whole lot of racing games, enough to become number one in Japan for lap times. I became avidly interested in anything car related, and made sure to experience what was fun about it."

Development was a relatively smooth process technically, as Katagiri recalls. "There was some work involved in setting up the development environment, but compared to modern GPUs, the graphic rendering was mostly handled by the Model 2 hardware itself, so the new technology did not lead to more work for software development," the programmer explains. "What did take time though was the new expressive method of texture mapping, and much trial and error was done to find what approach is the most effective and what visual expression is required within the hardware limitations."

While the struggles with texture mapping were imposed by technological progress, another major challenge was one imposed by the sport itself – a large number of racers. At its busiest, the CPU controls 39 of the 40 racers on the beginner track. "This was realised through various lines of trial and error, while monitoring performance loads for each. We prepared patterns where all cars were fully controlled, and also having CPU auto-drive from sampling," explains Katagiri. By carefully identifying areas where players wouldn't notice compromises, the AM2 team was able to save on CPU load. "We also prepared multiple collisions from light grinding to full-on grinding, and achieved precise grinding detection as long as the processing load could be afforded, and had the lighter processing load for grinding among the cars in far distance," Katagiri says. "Collision adjustment was difficult to implement, due to heavy processing load when many cars raced closer."

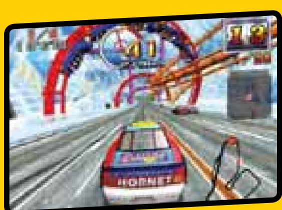
Things likely wouldn't have gone so well had it not been for the experience that much of the team had gained while creating *Virtua Racing*. "There were many references to *Virtua Racing* during development. I had created the camera controls as well as the basis of the pit crew movement using human shaped CG from live monitoring," explains Katagiri. "I also had a lot of experience regarding game balance with Yu Suzuki, when adjusting CPU drivers. This experience was invaluable when balancing the 40 cars racing in the beginner circuit." Nagoshi also found that he was



» [Arcade] Sometimes, your biggest problem is CPU racers crowding out the racing line. Get out of the way!

DAYTONA USA 2: POWER EDITION
ARCADE, 1998

■ The updated version of *Daytona USA 2* makes the beginner track a more traditional race course, and offers a special race that allows for all three tracks to be raced one after another in one sitting. The original Hornet also returns as an extra car, with its original handling model intact.





DAYTONA USA 2001
DREAMCAST, 2001

■ This game pretty much ignores *Daytona USA 2* and builds on the previous home versions of the original game, with vastly upgraded graphics and all of the *Daytona CCE* tracks plus three new ones. The handling is somewhat twitchy, but can be adjusted in the North American and European versions of the game.

SEGA RACING CLASSIC
ARCADE, 2009

■ This is a re-release of the original *Daytona USA*, with a new modern cabinet and 720p display. However, Sega couldn't use the *Daytona* branding (or vocals) as the race track had an existing agreement with arcade manufacturer GlobalVR, and the link option was cut down to four players.





DAYTONA USA
XBOX 360/PS3, 2011

■ This is basically the same emulation of the original as used in *Sega Racing Classic*, but with all the *Daytona* branding reinstated. Online races support up to eight players, and the game benefits from the addition of survival and karaoke modes. For arcade authenticity, no other home version comes closer.

DAYTONA CHAMPIONSHIP USA
ARCADE, 2017

■ The latest game in the series brings a big graphical upgrade to the original three tracks, and offers graphically overhauled mirror mode versions of each. Additionally, there's a new championship mode in which you progress through circuits with top-three finishes.



DAYTONA USA

THREE SEVEN SPEEDWAY

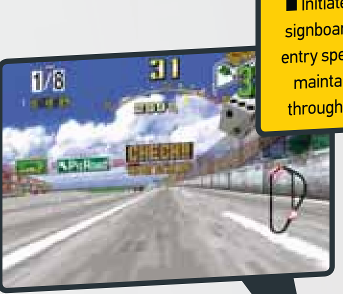
BEGINNER
8 LAPS



SONIC WALL

BILLIARDS CRASH

■ Initiate a drift as you pass the signboard on the right. From an entry speed of 324km/h, you can maintain a speed of 290km/h through the turn. Gotta go fast!



MAIN STAND

■ This shallow corner is easy – stay low on the inside and adjust out towards the centre of the road as you exit the turn. The main danger here is traffic.



MILLION SLOT ARCH



PIT LANE

■ You can cut across this by keeping to the extreme right of the lane, or by deliberately bumping into the advertising boards on the left.

ROYAL STRAIGHT



TARGET LAP TIME
00'18"00



ROULETTE CURVE

■ While Sega's old tactics video suggests drifting through this corner, we prefer to start from the outside and hit the apex normally. You've got just enough handling capacity to make it!



» [Arcade] Dinosaur Canyon's Brachio Curve is a great place to gain speed and practice slipstreaming.

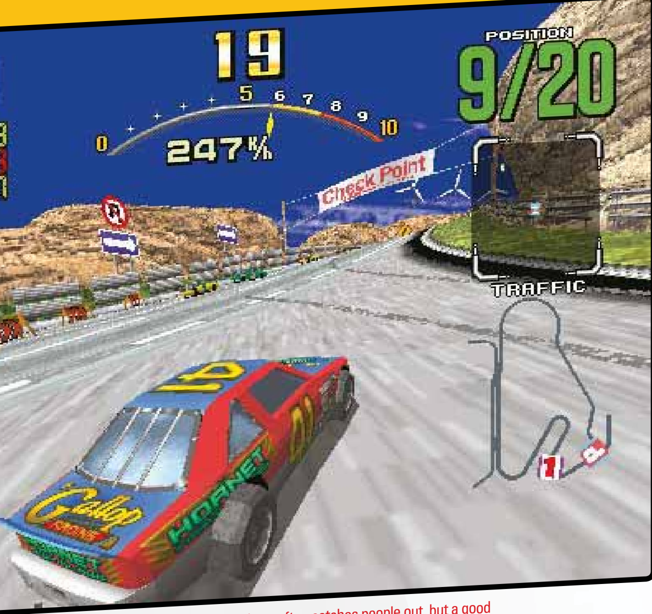
able to draw on his experience with the previous game. "It was invaluable for me to have the experience of the basics of 3DCG video expression, such as the approach to camera and lighting."

As we mentioned earlier, *Daytona USA* was born of an arcade technology race, and Namco was preparing its own breakthrough racing game – *Ridge Racer*. Like *Daytona USA*, it used texture mapping to reach new heights of 3D realism. A rivalry was inevitable, and it wasn't just something puffed up by the press. "Since *Ridge Racer* was also a racing game using texture mapped polygon, I of course had it marked as a rival," admits Osaki. "I remember going to a playtest to play *Ridge Racer*," says racing game fanatic Katagiri. "I felt it was a really speedy and cool racing game, but the direction we were going for was different, so it did not pressure me in terms of the technological aspect. But I do remember feeling that I did not want to lose in the expressive methods of the game."

"We were always being compared. I still think *Ridge Racer* was a great game," Nagoshi agrees. "However, the direction the two games aimed for was completely different. *Ridge Racer* had its fascination as more of simulator. *Daytona* was going for funky entertainment. That is why both games still have fans today." Though the games are quite different, they did share a number of features, and one of those was the implementation of drifting, allowing you to slide around corners. "Initially, the cars didn't drift in the game," remembers Nagoshi. "If you think about it, if you were drifting in an actual NASCAR race, you are on a clear path to death! But as soon as the decision was made in the direction that the game will not be a simulator, but a powerful and happy driving game, I thought drifting would be the necessary addition to the game."

"The difficult part was how to implement the 'trigger' for the car to start drifting," recalls Osaki. "If a car is





» [Arcade] The chicane here often catches people out, but a good drift right will see you through.



Toshihiro Nagoshi

created to drift naturally, then the stability in the straights would become compromised, making the game too difficult to play. So, we aimed for car controls that allowed quick lane changes, and player intended controls when entering a drift. In the final release, players triggered drifting in 'Manual Transmission' mode by shifting from fourth down to second."

Patrick Michael directed 2017's *Daytona Championship USA*, the latest arcade iteration of the series, and spent a great deal of time observing the original game and its players. "We knew that the handling should not be touched," he asserts. "It can be driven in so many ways depending on your skill, all of which are rewarding. Only a player who is willing to invest time in it will discover all of its subtle nuances. Perfectly timed shifting is the secret to the best times and it has become such an obsession that there are now extensive guides online to the exact timing of changes and drifts and the perfect racing line to take." Getting it right is tricky, but mastering the skill leads to some exhilarating moments. "The joy of dropping down two gears and sliding around a corner or in the case of Seaside Street Galaxy spinning 360 on a corner and recovering to power down the straight was amazing."

Though *Daytona USA* would only feature a trio of tracks and one car with automatic and manual transmission, many hours were spent perfecting each aspect of the game. "We experienced various hardships during development, but when something was not going well (which usually meant that driving the car was not fun), it would always come down to, 'Should we change the cars handling?' Should we adjust the shape of the circuit?'" Nagoshi recalls. "There were many heated discussions within the team."

One of these discussions was about what sorts of tracks needed to be included in the game.

DAYTON-AAA-AAA-AAA

Composer and vocalist, Takenobu Mitsuyoshi, explains how he created the sound of Daytona USA



Were you familiar with stock car racing before working on *Daytona USA*?

I did not even know the word 'motorsports'. I learned things about stock cars and how popular it is after we started the development of this project.

Vocal tracks were unusual in racing games in the early Nineties – why did you choose to use these?

I remember we were particularly aware of the racing game *Ridge Racer* from Namco which was released earlier than our project.

The music in *Ridge Racer* featured high-quality sound, and its genre was techno music, ideal for a racing game, which was quite a new approach. It made us think of a different approach in sound entertainment. I sang the songs myself because that was the fastest way to get the demo music in the game. So, as you know, now you hear it in the arcade machines around the world singing *Let's Go Away* in my voice.

What were your inspirations for the lyrics in *Daytona USA*'s songs?

I quoted the words that naturally came from the melody and phrase. With *Let's Go Away*, I reflected the image of a goal to be aimed for and dashing through it. As for *Sky High*, there was a clear and high blue sky that was meant to be flown in. The English lyrics were checked and cleared by a native English speaker.

On the Model 2 hardware, songs were constructed from a series of samples rather than played as a single audio file. How did you work around this limitation?

I split the vocal track by its time axis, and assigned them to keys of a keyboard. I think I was able to create the variation by changing play sequence and loop points.

How much reference material did you have when composing songs for *Daytona*?

At the time I had my own desk in the development team and I was in an environment where I could have the instruments for composition and the ability to load the composed music to the system board. I was able to observe the game being developed every day, so I played the sound effects and music out of the machine in development every day and every hour.

Do you have a favourite song from *Daytona USA*?

Aside from the three songs for each race track



» We've pretty much been blaring out *Let's Go Away* on repeat for the entire duration of this issue's work time.

in *Daytona USA*, there is one secret track called *Pounding Pavement* in the game. This track is the only one without an exclusive song track, and the music in the three main songs were recomposed to create a new one.

This development of creating songs using sampled material had been finalized in this song, where I had been able to create something new within the 'limitation', and use such limits as a new expression. As my methodology had been realised here, this song for me is especially meaningful.

Daytona USA is still popular with gamers and can still be found in arcades now. Why do you think the game has so many fans today?

I think the reason is the chosen subject of the game as it was something popular in the US and other countries. In this popular theme, there was elements of 'battle against other players', which is possible only in the videogame. All elements, including graphics and sounds, were focused on an engaging virtual experience, so that is one of the reasons why this game is not just a straight recreation of stock car racing.

Added to which, I would be happy if the repeated English phrases sound from the machine, which was a product of being able to take advantage of hardware limitations, is part of what makes the game memorable to fans.



» [Saturn] *Daytona USA*'s vocal tracks are iconic to the point that home versions often include karaoke modes.



DINOSAUR CANYON

ADVANCED
4 LAPS



PLESIOSAUR'S HEAD

■ This section as you come out of the tunnel is tricky. At an entry speed of 334km/h, initiate a drift to the right at the middle of the left turn and blast onto Tricera Road at 320km/h.



PTERA POWER STATION

■ At an entry speed of 320km/h, start your drift as you pass the second right turn sign. You can get through at 290km/h, and stick to the right as you exit the turn.

TYRANNO TUNNEL

TRICERA ROAD

STEGO SLOPE

■ Stay on the right as you enter the curve – just before the bend, you'll see tyre tracks heading left, which is where you should start your drift. Drop to 270km/h to make it around safely.

TARGET LAP TIME

00'48"00

(0'55"00 ON FIRST LAP)



BRACHIO CURVE

■ This is a nice gentle curve where the big danger is your fellow racers. Stay on the inside and get ready to turn left and enter the tunnel once you pass the checkpoint.







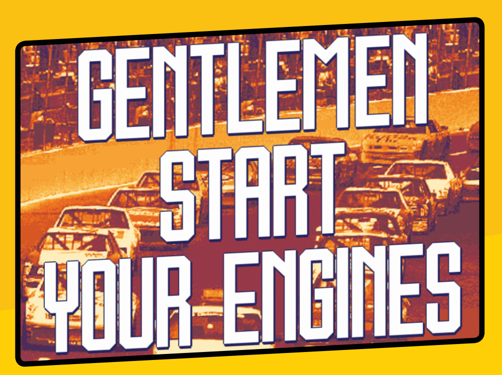
THE RUINS OF JURA

THE FOSSIL OF DRAGON

■ Enter from the left, and drift as you reach the tyre tracks going right. At an entry speed of 315km/h, you should be able to maintain 280-290km/h through the apex.

CHICANERY

Daytona USA has a few cheats and Easter Eggs, even in the arcade – here's how to find them…



MUSIC SELECT

■ Hold one of the VR buttons on the 'Gentlemen, Start Your Engines' screen to pick a song. The fourth button (furthest to the right) will play the secret song Pounding Pavement.

PLAY THE SLOTS

■ As you go past the slot machine in Three-Seven Speedway, you can press start to stop the reels. If you can line up a trio of lucky sevens, you'll get seven extra seconds on your timer.





LOSE YOUR SPONSORS

■ If you drive the wrong way up the pit lane in Dinosaur Canyon, you'll enter a small tunnel area. On the wall inside is a message that tells you just how badly you've been driving.



DEVELOPER HIGHLIGHTS

HANG-ON (PICTURED)
SYSTEM: ARCADE
YEAR: 1985

VIRTUA RACING
SYSTEM: ARCADE
YEAR: 1992

OUTRUN 2
SYSTEM: ARCADE
YEAR: 2003

"I thought it was imperative to include the oval circuit, the beginner track. Having NASCAR as the theme of the game, the oval was the correct choice. However, the game should not be completed as a simulator since this was about having entertainment content," explains Nagoshi. "Above all, a game, and users' needs of such are multifaceted. The oval course is simple and high-speed fun, but the game would be sold not only in the US, but in Japan and Europe as well, and users would also want circuits that necessitate the type of technical driving. We needed to have different courses while we used NASCAR as the motif."

Due to the colour palette limitation of texture mapping of that time, we separated the imagery of the course using trees and blue sky for the beginner circuit, rocky vales for the intermediate circuit, and bridges and buildings for the expert circuit," Nagoshi continues. The intermediate course, Dinosaur Canyon, took place over four mid-length laps with 20 racers and is Osaki's favourite track – "I liked the downhill section before the last turning point," he recalls. For expert players, Seaside Street Galaxy offered a 30-car race over two long laps, and included many tricky turns that required real mastery of the car's handling.

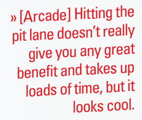
However, Osaki recalls that it was actually the beginner course that underwent the most revision. "Initially we had tried a traditional oval (like the Bristol Motor Speedway) and also made a course with the exact same dimensions as Daytona International Speedway, but this turned out to be rather repetitive in 'steering rhythm' in terms of gameplay," he explains. "Through trial and error, we eventually decided on a tri-oval layout that needed strong braking at the final turn. Also NASCAR is known for its numerous laps, so we made one lap shorter in time, so that players can turn many laps in a race." This work ultimately paid off, though. "The Beginner circuit is my favourite," says Nagoshi. "Being a combination of three curves, the circuit looks easy to make. But the curvature and banking angles were tested thousands, no, more like tens of thousands of times. I believe that in a driving game, the beginner circuit will take the most time to have the right adjustments."



Toshihiro Nagoshi

Daytona USA's tracks have become iconic, reappearing in almost every game to bear the brand, including *Daytona Championship USA*. What is it about these three circuits that makes them so ripe for revisiting? "I could be clichéd and say 'if it ain't broke don't fix it' but I think for me certainly it is a perfect progression of difficulty and a snapshot of timeless track design," says Patrick. "We could not think of releasing a new title without preserving these tracks for future generations of arcade players."

Another of the major factors that drew people to the game was its multiplayer capability – up to eight cabinets could be linked together, and many an arcade linked together the enormous deluxe cabinets as a showpiece. Realising that the game would attract players of all skill levels, the team adjusted gameplay accordingly. "The idea was to make an eight-car brawl with lots of contact. As a driving game, the driving


» [Arcade] Hitting the pit lane doesn't really give you any great benefit and takes up loads of time, but it looks cool.



POSING JEFFRY

■ While racing in Seaside Street Galaxy, stop in front of the statue of Jeffry and press start repeatedly to make him rotate. If you continue, he'll even do a handstand!





HIGH SCORE TUNES

■ By entering certain initials on the high score screen, you can hear hidden tunes from older Sega games. Try O.R (*OutRun*), V.F (*Virtua Fighter*) and S.H (*Space Harrier*) to start with.

DAYTONA USA

SEASIDE STREET GALAXY

EXPERT
2 LAPS

THE STATUE OF JEFFRY

COSMOS STREET

ASTEROID BELT

■ The uphill climb will limit your speed here. You only need to drop a little speed to drift past the statue of Jeffry onto Cosmos Street – from 270km/h to 255km/h should do it.

SIRIUS SKYSCRAPER

STARRY SKY HALL

MOON LIGHTHOUSE

TARGET LAP TIME
01'50"50
(1'57"50 ON FIRST LAP)

PEGASUS PASTURE

CASSIOPEIA CITY

■ Counter-intuitively, you want to go left of the pillars in the right turn here, as it'll leave you in a better position to drift through the next turn past Starry Sky Hall.

QUASAR BENDS

TEARDROP OF MOON

■ Follow the tyre tracks into the drift again here. From an opening speed of 270km/h, you should be able to maintain 245km/h as you pass the Moon Lighthouse.

SOUTHERN CROSS ROAD

SATURN'S RING

■ This is possibly the most deceptive corner in the entire game. Keep your foot on the gas and come in from the left. Start your drift at the second left turn sign, aim for 280km/h through the bend.

STARLIGHT BRIDGE

PLANET HARBOUR

SASA

SAILING SHIP

SPACE SHUTTLE

COMET CURVE

■ Enter this one from the right and be prepared to brake hard. As soon as you reach the first sign, start drifting – you'll need to come down from 300km/h to about 200km/h to make it through.



» [Arcade] One wrong move in the early part of Seaside Street Galaxy will see you wiped out by a roadside pillar.

▷ of the car is of course the basis of the game, but obstructing other players and even making them crash is something that can be done only in a game. I thought these aspects of racing would be an important characteristic of *Daytona*," explains Nagoshi. "The pleasure from smart driving is important, but this could be experienced in a time attack trial, so the emphasis on the multiplayer was on how we could maximize the feeling of engagement in a continuous battle."

To be engaged in such a battle, you need players to remain clustered together to some extent – and the game was designed to ensure that this happened. "The catch up (rubber-banding) made it the perfect multiplayer experience, even the most inexperienced player still has fun," explains Patrick. "It was very subtle for its time and makes a win feel achievable for everyone. I have watched three generations of a family play *Daytona* together in an arcade in the US and despite the difference in age and ability, it was still a close fought battle." With players more inclined to think they'll win next time, the potential for repeat play is high. "In multiplayer it is still a hugely social game with eight-player setups still generating queues of people who want to play together."

When *Daytona USA* was finished, very little was left undone. When asked about what he might have liked to include that ultimately didn't make it into the game, Nagoshi doesn't have a whole lot to offer. "It is probably possible now, but maybe having a race with the actual number of cars in a NASCAR race, and real car damage from collisions that affect race performance," ventures the director and producer. "But it would still not be a simulator, it would have entertainment at the core."





» [Arcade] Crashes, as usual for a Sega arcade racer, are quite spectacular on the unfortunate occasions when they happen.



» [Arcade] Here's a nasty set of twists that can often lead to a bad crash.

Daytona USA was first location tested in August 1993 before a wider release in January 1994, and it quickly became an arcade phenomenon. It was the perfect game for its time – the graphical technology was cutting edge, the vocal soundtrack was memorable and the game design was first class. What's more, it was available in a variety of cabinet options to suit operators, meaning it popped up everywhere. Small locations picked up the standard cabinet or twin model, while operators in need of a showpiece could link up eight deluxe cabinets with additional screens for spectators.

"I think it was at a seaside arcade on the south coast," says Patrick of his first encounter with the game. "I was there for the weekend with a group of friends. I think it was the attract sequence panning across all four monitors that drew us to it. We found a four-player setup and I seem to remember we spent a lot of cash trying to master Seaside Street Galaxy." *CVG*'s reviewer Rik Skews gave the game a score of 96%, describing it as "the best arcade game I've played in years" and noting that it was "one of the few games where mindblowing graphics and sound add to the gameplay instead of trying to hide a weak product".

The game is often considered anecdotally to be one of the best-earning arcade games ever thanks to its multiplayer capability and extraordinary longevity, though figures are hard to come by. The game's success meant that a home conversion was a guarantee, and it arrived for the Saturn in April 1995. This suffered from a number of graphical issues, but still achieved scores of 8/10 from *Edge*, 5/5 from *Maximum*, 92% from *Mean Machines Sega* and 94% from *Sega Pro*. The Saturn version was ported to PC in late 1996, and was not so well received as it inherited all of the drawbacks of the source material despite arriving well over a year later.

"THE FORCE FEEDBACK OF THE WHEEL WAS THE BEST PART"
Makoto Osaki

There's a long legacy associated with *Daytona USA*, but few of its successors had the same staff behind them. *Daytona USA Championship Circuit Edition* was largely handled by the consumer software team that had produced the excellent Saturn conversion of *Sega Rally*, and *Daytona USA Deluxe* was handled by a PC team converting their work. While Nagoshi was at the helm for *Daytona USA 2001*, was codeveloped by Genki. *Daytona Championship USA* was largely developed by Chinese staff, under the supervision of Sega Amusements International. All of these games have avoided straying too far from the formula, with only *Daytona USA 2* daring to scrap the original tracks and music completely – not coincidentally, this was the game with the most members of the original team on board, with Nagoshi as producer and Osaki as director.

It's easy to understand the nerves in departing too far from the classic game, as *Daytona* still casts a very long shadow over the arcade racing genre. "I must say it was a very frightening prospect to revisit such a classic," admits Patrick, whose nerves came despite work on other major Sega franchises such as *Sega Rally* and *Sonic & Sega All-Stars Racing*. "The remit was first and foremost do not change the perfect recipe." It's an interesting phrase – the perfect recipe. *Daytona USA* has remained popular over the last 25 years, frequently popping up in lists of the greatest games, and it can still be found in arcades today, so it's no wonder that Sega has repeatedly remade and reissued the game. But what is it that gives the game such staying power? "It's very hard to quantify. Part of it is the nostalgia, certainly for the older players but there are so many factors that make it such an amazing game," says Patrick. "It is an incredible multiplayer experience but the depth of the handling model still makes the single-player leaderboard a target for all us obsessives. But it is the magic of Mitsuyoshi-san's soundtrack that binds it all together."

What does the original Japanese team think? "I assume it's because of the passion toward the theme of the stock car racing which both users and developers keep in their hearts," says Katagiri. "I am very grateful to everybody involved in getting this game available to play." For Osaki, everything comes down to the arcade experience. "I think it's because the multiplayer racing was fun, and especially the force feedback of the steering wheel was the best part in this game," explains the planner. "The NASCAR racing of bumping into other cars to get ahead matched the system. This feeling from force feedback can only be experienced in arcades, so I think that way the game is still fun to play today."

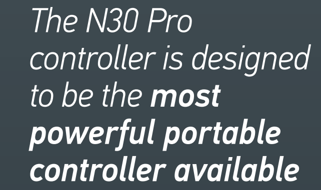
But what about Nagoshi, the man most associated with the series? "Frankly speaking, I am not sure about it. But I think the dedication that went into my first game development as a team leader, as well as all the staff involved, meant we could make this content that has been long supported and loved," he says. "It simply means that we did our absolute unsurpassable best, in order to entertain players of the game. That is why this spirit remains my motto to this day." It's a spirit that has led Nagoshi and his teams to produce the likes of *Super Monkey Ball*, *F-Zero GX* and *Yakuza* – but for some of us, *Daytona USA* still flies sky high above them all.



» [Arcade] We've come into this drift too fast and we're going to end up sliding out to the side. Oh no!

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The Making Of
The Oreg

Made in two weeks by a trio of teachers
The Oregon Trail became a sensation.
Creators Don Rawitsch, Bill Heinemann and
Paul Dillenberger, and the project leader
of the Apple II version, Philip Bouchard
reveal the magic behind their masterpiece

Words by Paul Walker-Emig

IN THE KNOW

» **PUBLISHER:** MECC

» **DEVELOPERS:** Paul Dillemberger, Bill Heinemann, Don Rawtisch, Philip Bouchard

» **RELEASED:** 1971

» **PLATFORM:** Various

» **GENRE:** Simulation

No one could have known that *The Oregon Trail* would one day grace the videogame hall of fame, let alone that there would one-day *be* a videogame hall of fame. Nor could they have predicted that an educational videogame made to simulate the great westward emigration made by Americans in the 19th century would become a cultural touchstone for a whole generation, or that it would go on to sell millions of copies. The reason why it was impossible to foresee that *The Oregon Trail* would become such a huge success was because, as the game's cocreator Don Rawitsch points out, "in 1971, nobody even knew what a huge hit in software would be".

"There were no 'video' games back then," cocreator Paul Dillenberger says, painting a picture of the landscape in which *The Oregon Trail* was conceived. "*Pong* was developed a year later and pinball machines were mechanical." In those nascent days, the three creators of *The Oregon Trail* didn't even have a screen to work with. Instead, they were using Teletype machines – a glorified typewriter with a roll of paper that communicated with a mainframe computer via telephone line. "It would probably be fair to say that we were all amateurs when it came to developing a computer game," Don says. "There were no books available on how to make computer games. There were no college courses taught about it. We were kind of doing this by instinct." And yet, somehow, with little experience of their own and no history of videogame design to draw on, the trio that created *The Oregon Trail* managed to find a formula that birthed a classic in only two weeks.

In talking to the game's three creators, Don Rawitsch, Bill Heinemann and Paul Dillenberger, it becomes clear that *The Oregon Trail*'s origin story is partly one of chance. The team met at Carleton College in Minnesota. Paul and Bill knew each other from studying mathematics at the college, where they also gained some valuable programming experience. Don, who studied history, met Paul and Bill through a teacher training program where they all decided to move in together while undertaking



» [Apple II] The travel screen lets you keep an eye on the weather, the health of your party, how much food you have and how long it is until your next destination.

gon Trail



» [Apple II] Nab yourself a kill in *The Oregon Trail*'s hunting minigame and you can bring back meat to help feed your family.

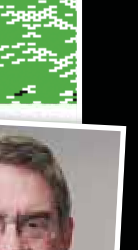


» [Apple II] You can resupply at forts, but the further along the trail you get, the more expensive the supplies become.

practical teacher training in the city of Minneapolis. It was during this stint living together as trainee teachers that *The Oregon Trail* was created.

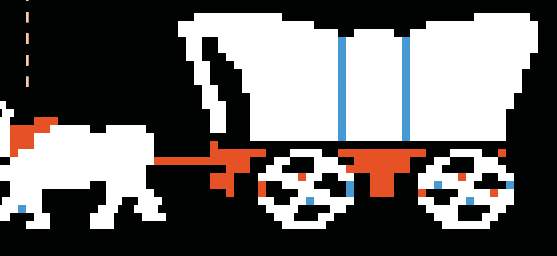
"I was teaching in a school under the supervision of a sponsoring teacher and that teacher had asked me to prepare to teach the unit on this westward movement in the United States," Don explains. "That was just by chance, that I was given that assignment. I already knew from having done some of my practice teaching that students get bored very easily, especially if the only thing that you use for teaching is a text book. I had seen examples of bored game activities designed for the classroom and I thought that might be a good model for how we could simulate this trip on the Oregon Trail." The genesis of *The Oregon Trail* was not, then, some grand vision about creating a revolutionary videogame. It was born from the desire to find an interesting way to teach kids about history.

"I had come back to the apartment with Paul from student teaching one day when I saw the game Don was inventing," Bill recalls. "The 'board' was an immense roll of paper that he had spread out across the living room floor which was a map of the Oregon Trail. As we talked, my imagination started running and I said, 'This would be a perfect application for a computer – it could keep track of all your supplies, your progress could be determined by how much you had spent on the wagon and the oxen, how much of a load you had, etc.' Don responded dejectedly, 'that sounds great, but I need it by next Friday'. I mentally began a task chart in my head and after a few moments, I said, 'I think I can have something by then'. I looked to Paul who'd have to commit to staying after school long hours for the next week helping with the data entry and debugging. Paul was willing. So, over that weekend, Don and I discussed the game and I began drawing flowcharts and writing code on paper."



» Don Rawitsch is one of the original cocreators of *The Oregon Trail*.

After only a couple of weeks beavering away on a Teletype in a small room at ▶



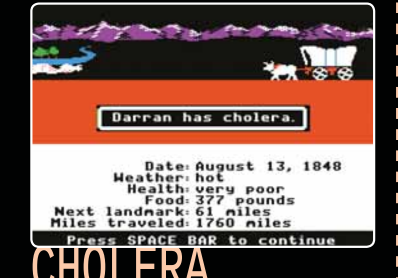
DEATH ON THE TRAIL

Horrible ways to die

DYSENTERY

Joe Chip has dysentery.

■ This is the cause of death that stuck in the collective consciousness of those who played the game, the phrase "you have died of dysentery" becoming a meme of its own.



CHOLERA

■ It's now effectively eliminated in the US, but Cholera was still prevalent in the US prior to improvements in water systems and sewage treatment.

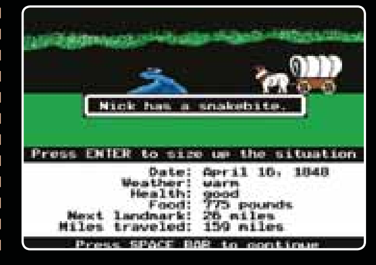
DROWNING

■ If you're too cheap to pay a Native American guide to help you make a river crossing, you're at risk of losing more than a few supplies when your wagon goes under.



SNAKEBITE

■ Disease isn't the only misfortune to look out for on the trail; the wildlife can be deadly, too. At any moment, one of your party could be bitten by a venomous snake.





EXHAUSTION

■ If you set your wagon to run at a gruelling place and don't have the supplies to ration out hearty helpings of food, don't be surprised if you pay the price.



BROKEN BONES

■ You can break arms and legs on the treacherous journey to Oregon. Rest up, and your injured family member will probably be okay. Plow on, however, and it will finish them.

TYPHOID

■ Before vaccination and improvements made to drinking water in the 20th century, Typhoid was a big killer, so it's inclusion is just one example of *The Oregon Trail*'s historic accuracy.

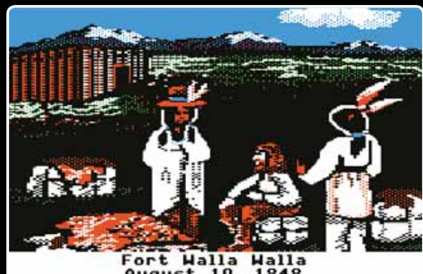


RUNNING THE RIVER

■ In the Apple II version, you have the option to try rafting down the Columbia River. Fail to dodge the rocks and it could be the end for you.



CONVERSION CAPERS



APPLE II

■ The 1985 Apple II version of *The Oregon Trail* was the first major revision of the original, moving from a largely text-only interface to one with graphics and new systems. This is the version that made the game famous across the US.

ATARI 8-BIT

■ If you want to know what *The Oregon Trail* looked like before the creation of the 1985 Apple II version that many incorrectly assume was what the game was always like, look no further than this text-based 1982 Atari version.





COMMODORE 64

■ In early versions of the game you could frequently be attacked by hostile riders, as you can see here. You had to quickly respond to prompts to type out onomatopoeic words to get your shots on target and run them off.

Bryant Junior High, the first version of *The Oregon Trail* had been completed. "This was, of course, 47 years ago and I think we expected that anything we did on the computer would fascinate the students," replies Don when we ask about their reaction to the game. "It's not like students used the computer every day in 1971. It was kind of a special event. For me, given that it was clear that there were more than a few students who were not very interested in history, I don't think I was sure how the mix of this subject they didn't like with a technology that fascinated them was going to end up." As it turned out, the kids loved it. "Students would line up outside the door, waiting for their turn," Paul recalls. "They even stayed after school to play."

This was not the version of *The Oregon Trail* that most of us are familiar with. This version didn't have the luxury of graphics to create a hunting minigame, for example, as was the case with later iterations. The trio had to find a way to implement a hunting system with only text at their disposal.



» [Apple II] A handy map enables you to check your progress on the historic trail and see what's coming up next.

> "It's not like students used the computer every day in 1971. It was kind of a special event"
>
> Don Rawtisch

"I give credit to Bill for coming up with this routine," says Paul regarding the game's original hunting system, "but I am very proud of that part of the program. The computer would type: 'Type bang.' The student then had to type 'bang' and hit the return key."

If you made a typing mistake you got no success from using the gun," Don says. "If you typed the word correctly but you typed it slowly, and the computer had a mechanism for timing how fast you got your response in, then you got some food but not a whole lot. If you could type it correctly and quickly, then the computer's formulas would reward you by saying that you had acquired a fair amount of food. That little shooting mechanism fascinated the students and was, I thought, in an era when all you had were text and a typing keyboard, a pretty ingenious way to simulate the use of a gun and gauge the results of using the gun to some skill action that you had to perform."

Though elements like this hunting system would be changed by the time the famous Apple II version was released, it's important to note that the fundamentals were there: you had to manage your supplies to ensure you had enough resources to make the trip; you had to make key decisions that would impact on how the story of your journey played out; and you were at the mercy of semi-random events that could turn your situation on its head in an instant, perfectly representing the brutality of making that perilous journey in real life.

"The events are random but with weighted probabilities," Paul explains. "For example, your wagon is more likely to break down in the mountains. You are more likely to get sick if your supplies are low."

"Another thing that I would say about this and it's something that I may never have revealed in an interview before, we realised that for kids to want to play the game again and again, the results of your decisions had to be somewhat unpredictable," Don tells us. "We put a little randomisation attached to the calculation of results. The computer might have been coded to recognise that you shot a deer and then it would give you $50 plus a random number between one and five and we put this kind of mechanism on many of the calculating formulas so that our claim that the game never plays the same way twice is at least partially based on the fact that you're always getting results that are slightly different."

Through this approach, Don, Bill and Paul had found a way to tell a unique story with each playthrough, a technique which accounts for much of its appeal and which also happens to be very much in vogue today. However, only a ▶

DOS

■ The DOS version of *The Oregon Trail* that was released in 1990 is largely indistinguishable from the 1985 Apple II version, playing in the same way. However, it does have updated visuals which make it easier on the eye.

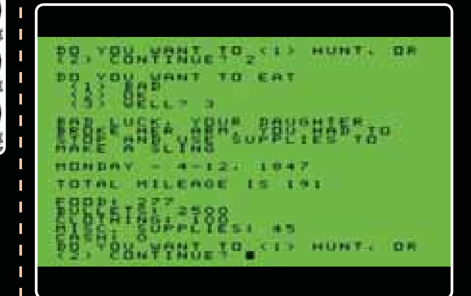


MACINTOSH

■ While the design in the Macintosh version of *The Oregon Trail* is a replication of the 1985 Apple II version, this iteration overhauled the interface, giving you better cues to keep track on the weather and your position on the trail.

TI-99

■ Miscellaneous supplies that would be vital as medicine were removed from later versions of the game (like on the TI-99). The logic being that travellers would be unlikely to have access to effective medical supplies.



CONTINUING THE TRAIL

The Oregon Trail's sequels and spinoffs

THE OREGON TRAIL II



■ The visual upgrades, including the use of images of real people, are the most obvious changes made in *The Oregon Trail* sequel. However, there are lots of gameplay changes, too. The game added multiple choice decisions, the ability to join a convoy of wagons and skills.

THE YUKON TRAIL



■ After a success like *The Oregon Trail*, it's no surprise developer MECC attempted to find new scenarios where it could replicate the established formula. Based on the Klondike Gold Rush, your goal in *The Yukon Trail* is to travel from Seattle to Dawson City to stake a claim.

THE AMAZON TRAIL



■ Another MECC riff on *The Oregon Trail*'s established template, *The Amazon Trail* sees your character journeying through the unexplored South American rainforest and learning about the native people that live on the famous Amazon river on their way.

THE OREGON TRAIL WII

■ For *The Oregon Trail*'s 40th anniversary in 2011, a reimagined 3D-rendered version of the game made its way onto Nintendo's Wii. To say that it didn't quite capture the magic of the original would be an understatement. The game was critically panned.

THE ORGAN TRAIL

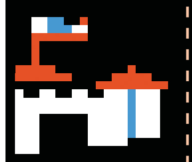


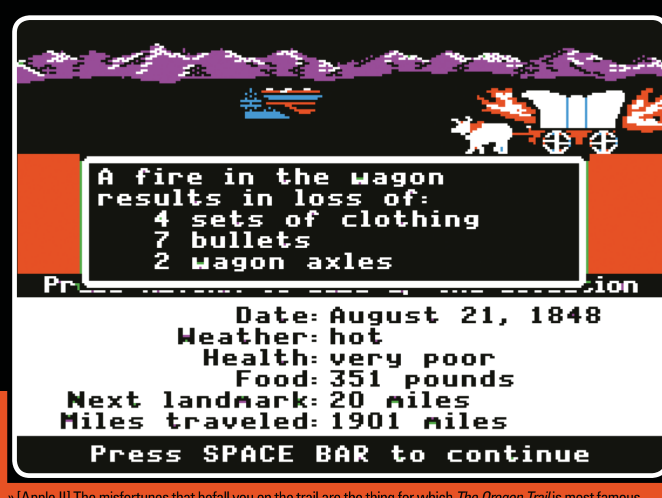
■ Part-zombie-themed parody and part-faithful spiritual successor, this indie title from The Men Who Wear Many Hats asks you to keep your party alive while travelling across a post-apocalyptic America infested with the undead on limited supplies of food, fuel and ammunition.

> "The new game proved to be immensely popular with a wide audience"
>
> Philip Bouchard

▶ small number of people had had the chance to experience it. It wasn't until 1974 when Don went to work for the Minnesota Educational Computing Consortium (MECC), a state-funded organisation contracted to help schools get to grips with what they could do with computers, and brought *The Oregon Trail* with him, that this would begin to change.

I decided to do some research that we had not had the time to do when we were first inventing the game," Don explains. "I found some sources that indicated the cost of various supplies at different stages in history and so, when you start the game and you're asked how much you want to spend on certain things, the pricing in the game was based on roughly what prices really were. Most importantly, I found some published versions of the diaries that some of the pioneers kept," he continues. "That was the most revealing of all, because when we first invented the game, we kind of guessed at what would be happening to people. Even if we guessed correctly as to what happened to them, we had no idea what the frequency was that these things would happen. Now I had these diaries and I went through several of them and kept score. How many days was there bad weather out of all the days of the trip? How many days did the wagon break down and have to be repaired? I put those statistics together and then I went back into the code for the program and set the probabilities to what I had found in the diaries."





» [Apple II] The misfortunes that befall you on the trail are the thing for which *The Oregon Trail* is most famous.



» [Apple II] Rest in peace, our beloved Editor. We will be paying homage to you next issue with a special *Dig Dug* cover.



» [Apple II] If you choose to raft the Columbia River, you must play this minigame where you have to dodge rocks.

» Philip Bouchard was responsible for the iconic Apple II version of *The Oregon Trail*.

The Oregon Trail started to spread across Minnesota schools through MECC's timeshare system, still based on Teletype machines and mainframe computers, becoming its most popular program. With the coming of the Microcomputer, MECC released a new version with the addition of a crude FPS hunting system as one of five programs on a product called Elementary Volume 6. These iterations helped ensure it remained MECC's most well-known product, but the text-based gameplay was increasingly out of date from a technological perspective. MECC decided it was time for a more radical overhaul.

"The mandate I received in October 1984 was to reimagine *The Oregon Trail* for the home market," Philip Bouchard, the lead designer tasked with creating a revised version for the Apple II, tells us. He was keen to maintain the commitment to historical accuracy that the original creators had and was asked to "identify and preserve whatever magic had made the original game so popular".

"I decided to design the game from scratch," Philip tells us, but not without first identifying seven key concepts the he felt "formed the essential heart of the original design, and were essential to its success: the player buys supplies before starting the journey to Oregon; there are plenty of opportunities to hunt for food along the way; there are opportunities to make purchases at forts along the route; the player must manage the level of supplies to avoid running out; the rate of travel depends upon the current conditions; misfortunes occur; the game ends when the player reaches Oregon, or when the player dies along the way.

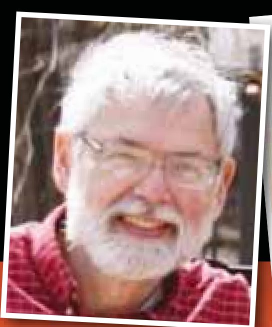
"The original *Oregon Trail* employed a simple two-week game cycle," continues Philip, detailing the changes made to the game. "I divided the primary route into 16 segments, each beginning and ending with a famous landmark. The journey to Oregon typically takes about 150 days. I needed to incorporate a daily cycle into the design, so that crucial events could occur on any day of the journey, and to allow the player to track the supplies on a daily basis." Hence the introduction of the iconic ox and wagon travel screen, along with new decisions to make, such as the option to talk or trade with other people, play an updated arcade-style hunting game, adjust the pace of your journey, or take a rest.

Philip and his team further enhanced the game with new geographical landmarks like rivers, mountains and forts, rendered in colour graphics and with music – "every melody is an actual tune that was popular at the time of the Oregon Trail", Philip reveals. They added branching routes to the trail, dangerous river crossings, and the ability to name your family members to enhance your personal connection to their story. As well as adding new decisions and simulations, the team enhanced what was already there. You could get sick in the original, but the Apple II version added specific diseases like cholera, measles and infamous bouts of dysentery. The weather system received added granularity, calculating the weather each day based on the season and your current location.

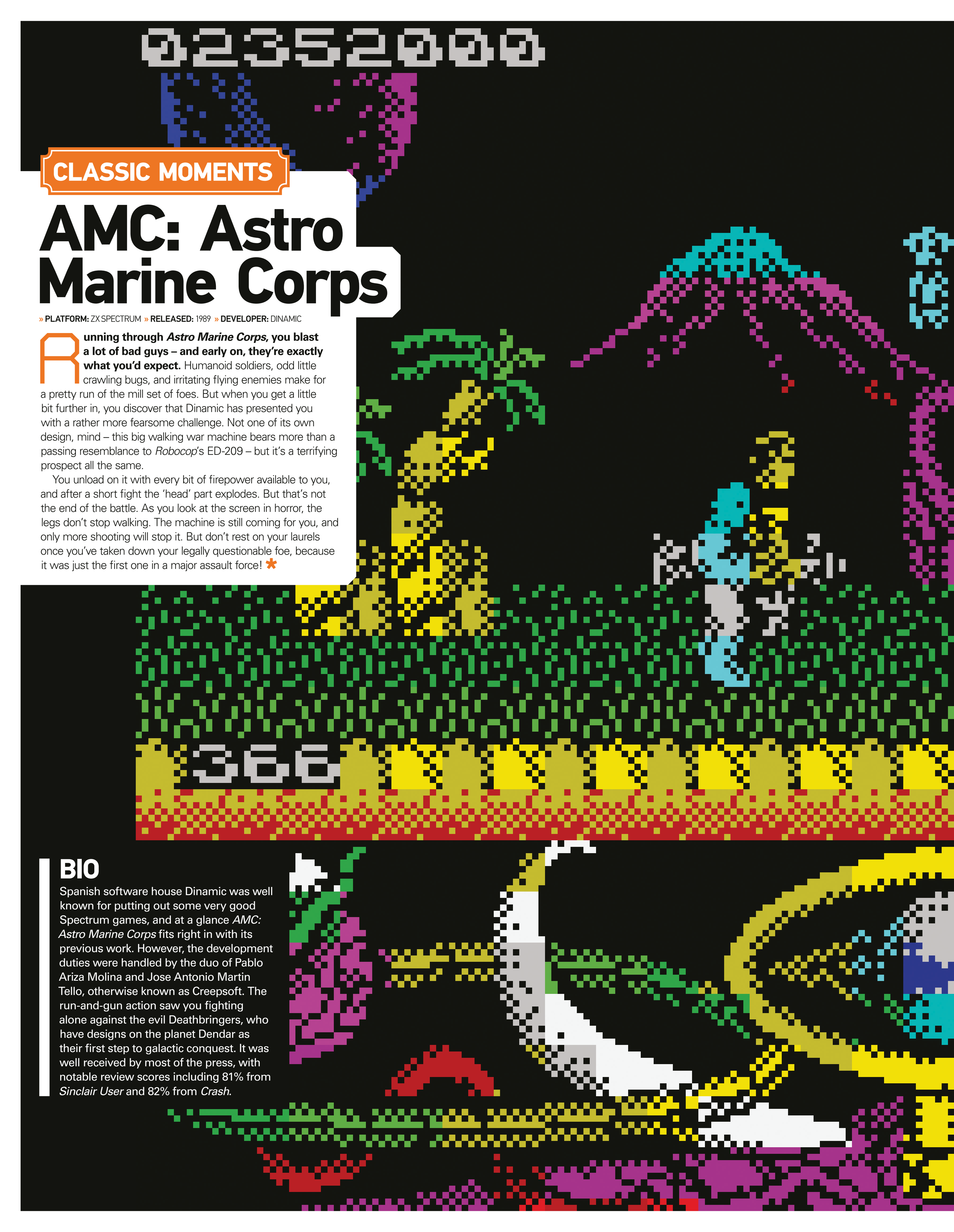
"The new game was longer, with a much richer set of opportunities for decision making," says Philip. "It also allowed players to succeed in more than one way, using various possible strategies and gameplay techniques. In the end, the new game proved to be immensely popular with an exceedingly wide audience."

Indeed, with the growth of the microcomputer and *The Oregon Trail* now available on floppy disc, new frontiers were opened for the game to conquer. *The Oregon Trail* went national, becoming one of the most successful games of all time.

Both the original creators, Don, Bill and Paul, and the team led by Philip that revamped the game, deserve credit for its success: the original trio for innovating in a medium that barely existed and creating an amazingly compelling title while limited by time and technology, the Apple II team for successful identifying what made the original so appealing and layering on a host of new ideas that drew on that appeal and took the game to a new level. Together, they created a classic. ★




» Bill Heinemann (left) and Paul Dillenberger (right) created *Oregon Trail* together with Don Rawitsch.



CLASSIC MOMENTS

AMC: Astro Marine Corps

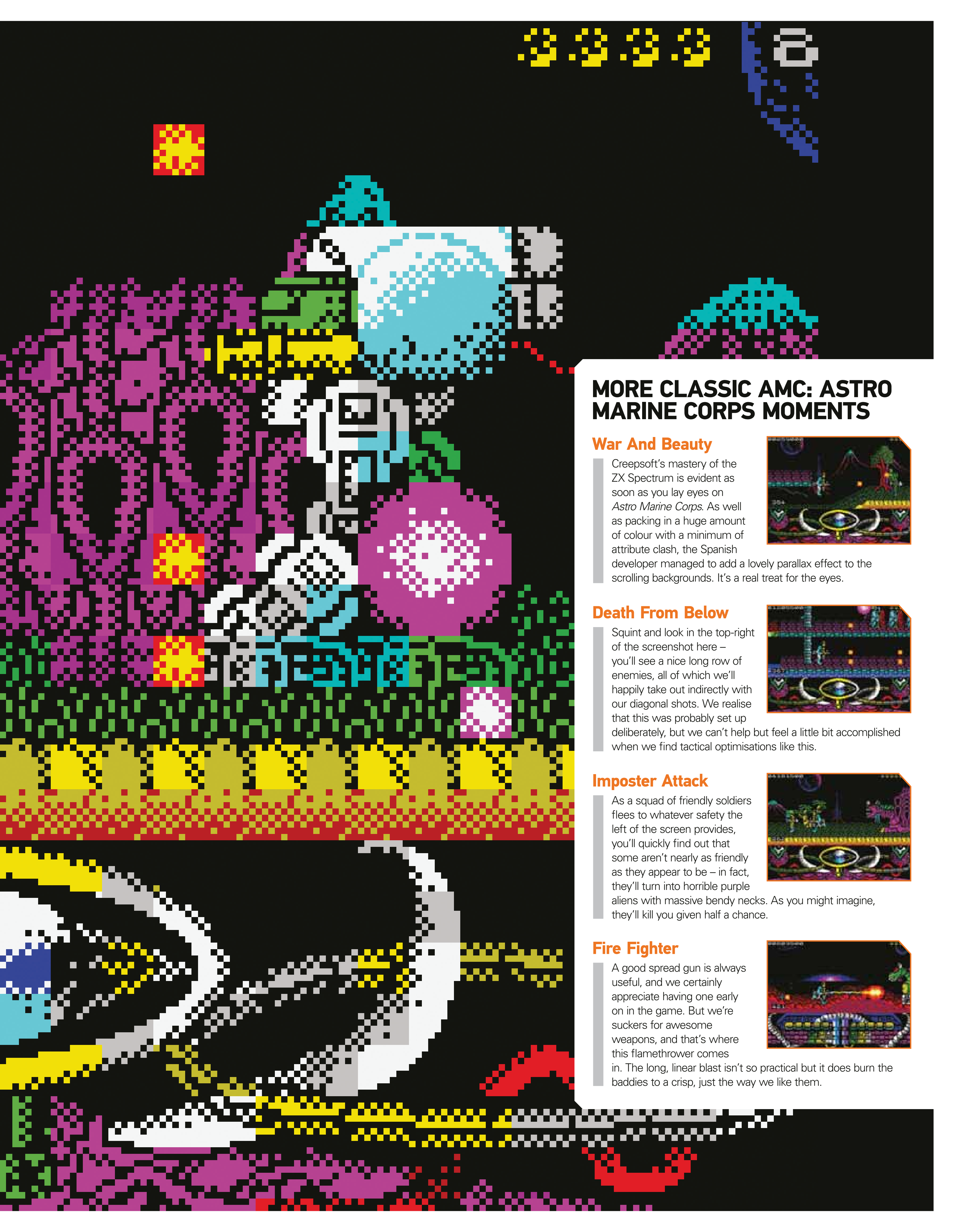
» **PLATFORM:** ZX SPECTRUM » **RELEASED:** 1989 » **DEVELOPER:** DINAMIC

Running through *Astro Marine Corps*, you blast a lot of bad guys – and early on, they're exactly what you'd expect. Humanoid soldiers, odd little crawling bugs, and irritating flying enemies make for a pretty run of the mill set of foes. But when you get a little bit further in, you discover that Dinamic has presented you with a rather more fearsome challenge. Not one of its own design, mind – this big walking war machine bears more than a passing resemblance to *Robocop*'s ED-209 – but it's a terrifying prospect all the same.

You unload on it with every bit of firepower available to you, and after a short fight the 'head' part explodes. But that's not the end of the battle. As you look at the screen in horror, the legs don't stop walking. The machine is still coming for you, and only more shooting will stop it. But don't rest on your laurels once you've taken down your legally questionable foe, because it was just the first one in a major assault force! *

BIO

Spanish software house Dinamic was well known for putting out some very good Spectrum games, and at a glance *AMC: Astro Marine Corps* fits right in with its previous work. However, the development duties were handled by the duo of Pablo Ariza Molina and Jose Antonio Martin Tello, otherwise known as Creepsoft. The run-and-gun action saw you fighting alone against the evil Deathbringers, who have designs on the planet Dendar as their first step to galactic conquest. It was well received by most of the press, with notable review scores including 81% from *Sinclair User* and 82% from *Crash*.



MORE CLASSIC AMC: ASTRO MARINE CORPS MOMENTS

War And Beauty

Creepsoft's mastery of the ZX Spectrum is evident as soon as you lay eyes on *Astro Marine Corps*. As well as packing in a huge amount of colour with a minimum of attribute clash, the Spanish developer managed to add a lovely parallax effect to the scrolling backgrounds. It's a real treat for the eyes.

Death From Below

Squint and look in the top-right of the screenshot here – you'll see a nice long row of enemies, all of which we'll happily take out indirectly with our diagonal shots. We realise that this was probably set up deliberately, but we can't help but feel a little bit accomplished when we find tactical optimisations like this.

Imposter Attack

As a squad of friendly soldiers flees to whatever safety the left of the screen provides, you'll quickly find out that some aren't nearly as friendly as they appear to be – in fact, they'll turn into horrible purple aliens with massive bendy necks. As you might imagine, they'll kill you given half a chance.

Fire Fighter

A good spread gun is always useful, and we certainly appreciate having one early on in the game. But we're suckers for awesome weapons, and that's where this flamethrower comes in. The long, linear blast isn't so practical but it does burn the baddies to a crisp, just the way we like them.

UNLICENSED TO THRILL

While many of us were enjoying playing the latest arcade conversions and big-name movie licences on our home computers a whole different software scene was emerging on the Atari 8-bit in Eastern Europe, a far less official one that offers up a fascinating story

Words by Kieren Hawken

When we talk about 8-bit computers in the United Kingdom we tend to only focus on the so-called 'Big 3' – the ZX Spectrum, Commodore 64 and Amstrad CPC. It's not hard to see why with their huge range of big name movie licences, official arcade conversions and bona fide classics. So it's easy to forget sometimes that there were other 8-bit micros that had terrific success outside of the UK. The MSX dominated in Japan, Spain and the Netherlands. In North America the Apple II and Tandy CoCo proved to be extremely popular. And then in Germany and Eastern Europe we have the Atari 8-bit, which very much ruled the roost across the former Soviet states. In fact, it was so popular in that part of the world that the region even got its own model of the computer – the Atari 800XE, which was in production right up until 1992, just a year before Atari unleashed the 64-bit Jaguar console on the world. As you would no doubt expect, this popularity led to a lot of region-exclusive software being released for the Atari 8-bit computers in Eastern Europe. The majority of this came from Poland, which was of course the home country of Atari Corporation owner Jack Tramiel, and it's at this point where we'll focus on further to begin to unravel this intriguing story.

Jack Tramiel was not just a savvy business man, he also knew the home computer market better than anyone, having previously founded Commodore and cemented the Commodore 64 as the world's best-selling home micro. He knew the value of exploiting key markets and, shortly after his acquisition of Atari's consumer division, he identified his former home as being ripe for business. At this point the vast majority of home computers in Eastern Europe were shoddily built clones of other people's machines that had been sneaked over the border, in particular the cheap and easy-to-replicate ZX Spectrum. Jack knew that people wanted more, but he needed to find a way into this territory. Doing this wasn't as easy as many might think as this region was still very much under Soviet control and importing goods from the west wasn't just frowned upon, it was outlawed. Consumers could only purchase electronic items from government-approved retailers which had a tight grip on the market. Thankfully for Jack, he





» [Atari 8-bit] By far one of the most shameless bootlegs for the Atari 8-bit is LK Avalon's 1993 port of Palace Software's hugely successful *Barbarian*.



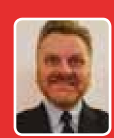
» [Atari 8-bit] It's safe to say that Robocop on the Atari 8-bit is a rather strange and extremely hard affair. We challenge you to get past the first screen.

wasn't the only technology guru in California to escape the Nazi occupation of Poland and incoming Soviet oppression. These close business contacts, combined with his nationality, gave him a distinct advantage over his rivals and he soon set the wheels in motion.

Krzysztof Ziembik is best known in the Atari community under the moniker of 'Kaz' and is one of the people behind the Atari.pl website as well as being an artist on many Atari 8-bit homebrews. He took some time out of his busy schedule to speak to us about how Atari broke into the lucrative Polish market. "Well, everyone knows that Jack Tramiel himself was Polish and fled to the US aged 11," he begins. "But Atari was in Poland mostly thanks to a man called Lucjan Wencel, a Polish scientist and businessman who established companies like LDW (Logical Designs Works) in California building disk drives for the ever-growing computer market." While we know that Jack Tramiel teamed up with Lucjan it's unclear how Atari was able to bypass the strict import rules and get product to market. Regardless of how it happened, it worked. With the Atari 8-bit computers being the only western computers officially available in both Poland and the former Czechoslovakia it wasn't long before they started to dominate the market, no doubt helped by the glut of software that was also available for them. The majority of these games were being sold illegally through the black market and then subsequently copied and shared by Atari owners everywhere.

FLYING UNDER THE RADAR

Pawel Kalinowski coded unofficial ports of several famous arcade games including Operation Wolf and Bank Panic



What was the games market like where you lived in Eastern Europe?
There was basically no market when I got my computer in 1986 – every game got copied around by other users! Soon afterwards small shops started to sell copied software, also via mail order. Somehow, I remember that the first games I bought came from 'company' Megabajt that is still operating! I use 'company' in quotes because at that time we were under Soviet rule and private entrepreneurs were operating in a strange, semi-legal manner. You know – it was not really prohibited to do your business, but the authorities could come after you at any time.

Where did you buy videogames?
Besides the local markets and mail order there were some rather uninspiring attempts to produce and sell games and other software by state-operated companies – I have definitely bought some tapes from the Workers Cooperative Movement (with a hammer in their logotype). Besides this, all the software was just copied around and it was not illegal at all – the first legislation covering software appeared several years after the Soviet Bloc's demise.

Did the software companies care about cloning other people's games?
Not at all – first of all we were business-wise non-existing – it is like if today EA would worry about sales in Congo or Burundi. It started to change in the mid-to-late Nineties, when we started our slow return to the world.

Did you sign contracts or anything like that to make these games?
We had contacted a couple of publishers just after the political system changed, when real companies started to emerge. And only then did we have a contract for each game developed.

Were you ever worried about legal action from the original designers when making such games?
Absolutely not – it was not illegal in our system. But our publisher had some consciousness to suggest that we at least change the titles of these games, so we flew under the radar. We could brag about our achievements without a shade of shame.

Why do you think the Atari range of computers proved to be so popular in Eastern Europe?
First, they were available. This is not a trivial matter – there were basically no shops where you could go and buy a computer. It all changed when a state-owned company Pewex with shops in all larger cities started to import and sell Ataris on a regular basis. I guess Jack Tramiel and his associates knew how to get his stock to the market.


» The lead coder of *Bang! Bank!* and *Operation Blood*, Pawel Kalinowski, showing off his new Atari ST.

THRILLS AND SPILLS

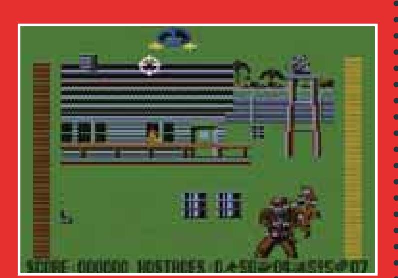
The best and worst of unlicensed Atari 8-bit games

TERRIFIC THREESOME



JURASSIC PARK II

■ The first *Jurassic Park*-themed game for the Atari 8-bit isn't particularly good but this sequel is a different story. This is a huge sprawling arcade adventure with some excellent graphics and superb in-game music. This is one that all Atari 8-bit fans should look up.



OPERATION BLOOD

■ Taito's 1987 arcade hit *Operation Wolf* revolutionised the lightgun genre and inspired numerous clones. Rather than just being another lame cash-in, though, *Operation Blood* is actually an extremely good translation of the original with all the game mechanics faithfully ported over.



EMPIRE STRIKES BACK

■ Rather than a conversion of the excellent vector arcade game, this is a copy of the also very enjoyable Atari 2600 game of the same name with some upgraded graphics and sound. It's actually a surprise there aren't more unofficial *Star Wars* games on the Atari 8-bit.

TRIPLE TROUBLE



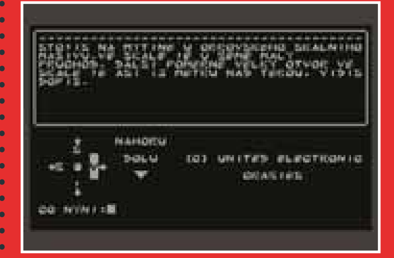
INDIANA JONES AND THE LAST CRUSADE

■ If you were expecting a conversion of the mediocre arcade adventure released by US Gold in the west, then prepare to be even more disappointed. This is an abysmal beat-'em-up with some of the worst collision detection ever.



RENEGADE

■ Produced by the same team as the game above, Brothers Production, *Renegade* is every bit as bad. Another scrolling beat-'em-up that seems to be using the exact same engine, this seems to be making very little attempt to copy the classic arcade game authentically.



INDIANA JONES AND THE TEMPLE OF DOOM

■ We were surprised at just how many unofficial *Indiana Jones* games there are, but this text adventure is by far the most lacking of them all. This is dull, boring and a world apart from the wide-eyed adventure of the source material.

"The Atari 8-bit was already dead in the west so any piece of new software was eagerly duplicated"
Pawel Kalinowski

▶ Kaz provides us with insight on what it was like trying to buy games in the Czech Republic. "There wasn't any market during communist time in Eastern Europe, well not in the western meaning anyway," he says."You couldn't just go in shops and buy games. You could only copy them from colleagues, for free, or buy them from pirates, for money."

But people weren't just playing these games and swapping them with their friends, they were also learning how to make their own, too, and it wasn't long before small independent software companies started to spring up across Eastern Europe. Just as you saw in the western half of the continent, many of the early games produced by these companies were merely copies of other people's games. But without the influences of the arcades to draw on, these titles were pretty generic copies and hacks of existing titles that had already been distributed in Poland such as *Boulder Dash*, *Arkanoid*, *Pac-Man* and, of course, the puzzle favourite *Tetris*. But this lack of pop culture influences eventually led to companies such as Mirage, LK Avalon, Datri Software and ASF creating a huge range of really quirky and original titles that we sadly missed out on until more recent times. As the Berlin wall began to crack and people started to peak through the gaps in the iron curtain a host of highly sought-after western products began to find their way into soviet states. Perhaps the most in-demand items of all, among young people anyway, were western movies. These pirate VHS tapes would often be badly dubbed and sold on market stalls with poorly printed covers. It was these bootleg films that would start to provide a new influence for Polish and Czech videogames. We turn



» [Atari 8-bit] The early years of the Atari 8-bit market in Eastern Europe were dominated with clones and hacks of games, such as Super *Boulder Dash* here.



» [Atari 8-bit] With the Atari 8-bit market dead in the west, devs got creative producing sequels to popular titles, such as this alternative *Arkanoid II*.

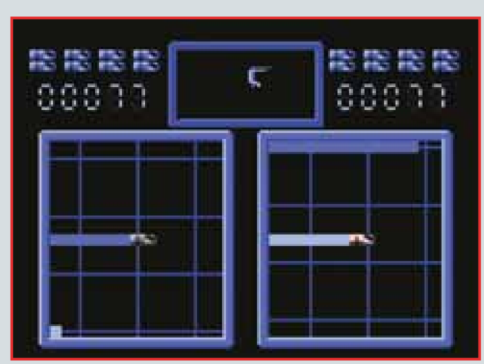


» [Atari 8-bit] *Special Forces: Operation Blood 2* is a rather lacklustre sequel that fails to impress as much as the original game.


» The Polish team behind the Atari port of *Operation Wolf* relaxing after a hard days coding in their studio.

to Kaz for a bit of clarification on how the software scene in Eastern Europe evolved. "There are three different periods in Eastern Europe," he says. "Firstly the communist time, when there was no real market for computer games. This takes us up to 1989. Then there was the post-communist period when a market existed, but there was no strict regulation and behaviours about intellectual properties. Then from around 1996 we have the modern days, where people and companies started getting freaky about breaking the law."

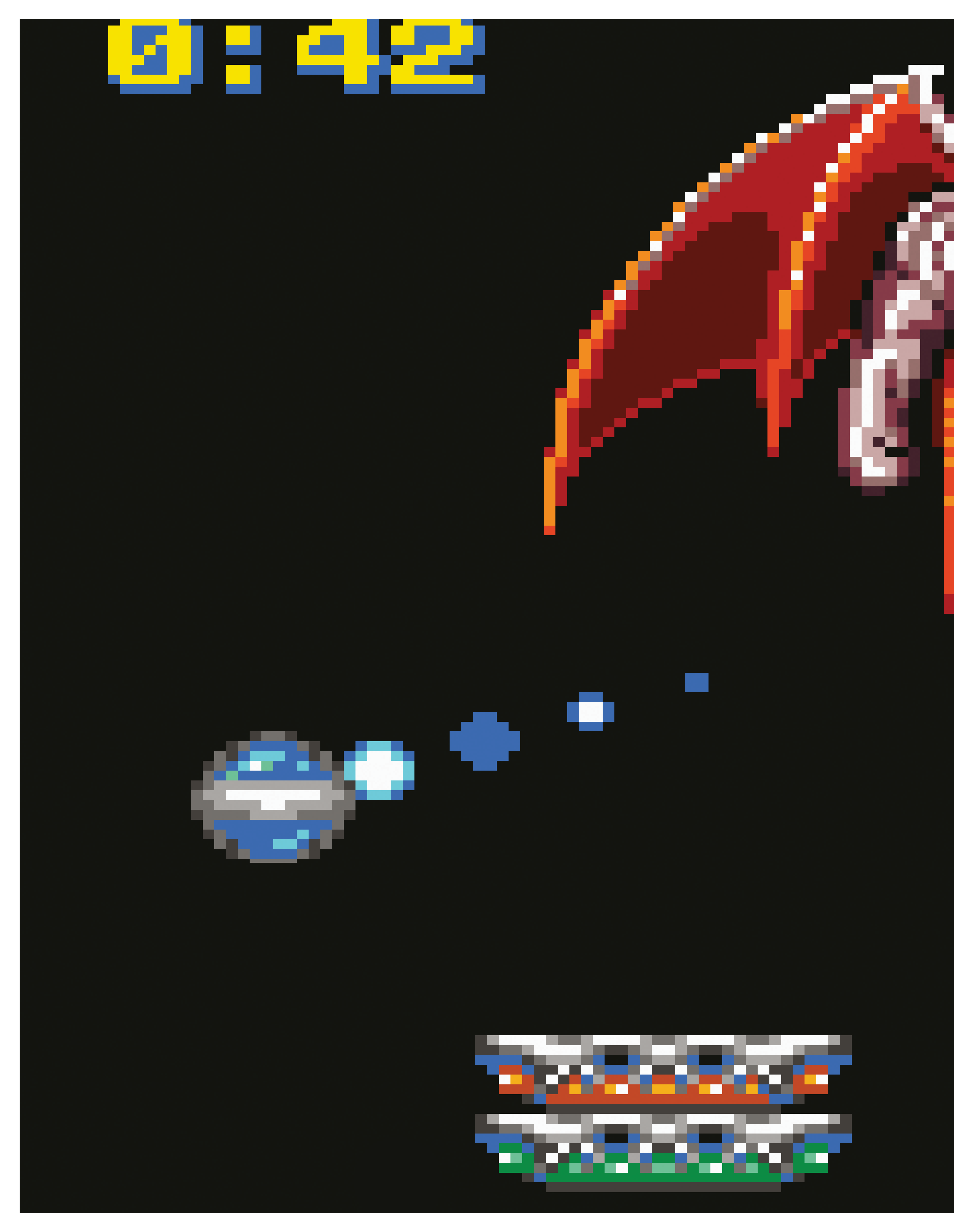
Through the early Nineties we would see games based properties such as *The Terminator, Predator, Tron, Jurassic Park* and the *Indiana Jones* films, which proved to be a huge favourite in this market. Now making games based on films and TV shows is hardly an unusual thing, we certainly had a glut of them in the west. But what made these different to the games that we saw across the rest of the world was that they took no notice of trademarks, copyrights or intellectual property. In fact, they were downright shameless in their production, often using images from the films on both the packaging and in-game as well as using the same name. Many of these games even had the audacity to display copyright messages on the title screen asking that nobody copy or reproduce them. One of the things that will seem very strange to western gamers when they play these titles is that many of them share very little resemblance to the films themselves. We ask our expert Kaz why that was. "I think that some films excite the imagination of young people and when they are tied to a hero or story they try to use it in their own way," he suggests. "The history of popular culture shows us that people inspire each other, it's a natural way of human development." Kaz is also keen to add the story of how these games actually came to be developed. "Many of these games were made for fun and for people's own satisfaction," he explains. "Later, when it became possible the authors decided to publish them. They were usually distributed by small, one-person businesses, not really a big commercial money making venture. Games like *Operation Blood* and *Jurassic Park II* were developed and distributed in the early Nineties as the business became commercial and almost what you would see as normal. However, the market for videogames was still quite small at the time."



» [Atari 8-bit] Games based on the light cycles sequence from *Tron* are not unusual, but this splitscreen effort from Mirage Software is impressive.

Meanwhile in the west the 8-bit computers were being killed off at a rapid rate and come the early Nineties the Atari 8-bit format was all but dead. But it couldn't have been more different in the east of Europe though as the Atari 8-bit market very much reached its peak and the clamour for new titles was relentless. Polish programmer Pawel Kalinowski explains to us what this was like. "The Sunday market was a great way to see other computers and generally see what is going on around us. I remember how shocked I was seeing the Atari ST for the first time with a monochrome monitor that looked so surreal with its 72Hz refresh rate – it was like the screen was printed on a piece of paper! In this very venue we sold our first piece of software – one rather silly demo bought by a local market mogul. The Atari 8-bit was already dead in the west so any piece of new software was eagerly duplicated and sold, even if it was just a lame demo scene production." This lack of new games coming from the west led to many programmers resuming the duty of cloning existing games. But rather than copying existing Atari 8-bit games as before they turned their eye to games that hadn't made it to the machine due to its commercial demise in the west. Through the early to mid-nineties we saw unofficial ports of games such as *Operation Wolf, Barbarian, Battleships, Bank Panic, Bomberman* and *Renegade* appear among others.

Towards the end of the nineties the western influences on the newly democratic countries of Eastern Europe began to take over and the videogame market was completely revolutionised from people selling bootleg games on market stalls to officially packaged and translated titles on the shelves of gleaming high street chain stores. But many in the former soviet bloc remember these early days with a sense of fondness and nostalgia and indeed this has led to a resurgence of interest in the Atari 8-bit in more recent years. Not only are we seeing more homebrew games for the system coming from this region of the world than any other, but also many of the games that were released back then are being expertly reproduced in collectors sets and professional packaging just as they would have been had they been released in the west back in the day. As Kaz himself is often quoted as saying, "Long live the Atari!" *


0:42



Devilish

DEVILISH BY NAME, DEVILISH BY NATURE

RETROREVIVAL

» GAME GEAR » OPERA HOUSE/AISYSTEM TOKYO » 1991

I'm a huge fan of handhelds, but for some reason the Game Gear has never had the same effect on me like the Lynx, GBA, Vita and countless other portable systems have. It's a system I'm glad to have owned, mainly because it does have a fair few interesting titles on it and by far one of the most memorable is this quirky offering from Opera House and Aisystem Tokyo.

Devilish is very, very similar to Taito's *Arkanoid* in that you control a ball that you can use to destroy blocks and monsters, but it's largely there that the similarities end. You see, *Devilish* actually lets you control two paddles at once which are stacked on top of each other and can be separated in order to reach out-of-the-way balls. It's a nice touch… until your ball gets trapped between them, ricocheting like crazy until it inevitably bounces off the top paddle to disappear into the ether.

Devilish also scrolls and you'll need to keep moving in order to reach the boss that resides at the end of certain stages. Along the way you'll encounter block formations and annoying enemies that will do everything they can to ensure your ball slips past your defences and enters the void at the bottom of the play screen.

The difficulty ramps up quickly, but it never feels unfair (although it certainly gets frustrating at times). It ended up becoming one of my most-played Game Gear games for the short time that I owned the console and I eventually picked up the later Nintendo DS game, which never really clicked with me in the same way. I know that a sequel came out on Sega's Mega Drive, but I've never played it. For all I know it's the best one in the series – it probably isn't, though. *



ULTIMATE GUIDE:



How do you follow an arcade mega hit like R-Type? Irem chose to provide more of what worked first time around, but sought to make it bigger, better, harder. Oh well, two out of three ain't bad

Words by Martyn Carroll

GUNTAK

MANTH

The sequel to *R-Type* arrived in December 1989, two-and-a-half years after the original game. This gap between games seems perfectly reasonable these days, but back then there was genuine surprise that Irem waited so long to follow up its biggest hit. 30 months was almost an aeon in arcade terms and more than one commenter referred to *R-Type II* as 'long-awaited'. So expectations were genuinely high, especially as the passage of time suggested that the sequel would benefit from hardware advances that had been made in the interim.

It was deflating, then, to discover that *R-Type II* was very much a case of '*R-Type Too*'. "On first sight it's rather disappointing," wrote Matt Bielby in his *Your Sinclair* Slots of Fun column. "The controls, the look and the weapon pick-ups are identical to those in the first game. Playing it is like winding the clock back a couple of years." These criticisms were shared by other publications. "*R-Type II* can be seen as another six levels of the original," wrote *Commodore User* magazine. "The designers haven't even bothered to give it the facility of simultaneous two-player action."

No, Irem didn't 'do a *Salamander*' and add co-op play. In fact, it actually dialled down some elements for the sequel. Most noticeably there were just six stages compared to the original's eight. What's more, some of the new stages were overly familiar to *R-Type* fans, particularly the first stage which was a re-run of the original's opener, right down to having the same boss (albeit in a new, enhanced form). Bizarrely the second stage, which took place inside a partially submerged cave and introduced various aquatic enemies, was a real showstopper that should have figured first.

The R-9 ship also returned and was visually alike, although this was actually a custom version (the R-9C) that benefited from an upgraded plasma cannon. If you held down the fire button the beam would charge up for the regular plasma beam, like before, but if you continued to hold fire it would charge a second time to produce a devastating plasma wave that blazed across the screen. This was cool, for sure, but it took so long to charge, and the window for using it was so small, that it served little practical use when playing.

The 'Force' power-up returned and its operation was unchanged, ▶

» [Arcade] It's wouldn't be a *R-Type* game if there wasn't a gigantic boss to annihilate.

POW ARMOR

CLINT

LADY

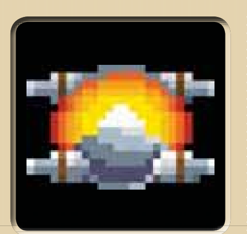
GYDOCKER

CANCER

OLLIE

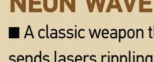
POWER-UP

The lowdown on the power-ups at your disposal



THE FORCE

■ The fundamental power-up, an invincible orb that can be upgraded and imbued with different weapons.



NEON WAVE

■ A classic weapon that sends lasers rippling outward. Combines with Bits for added firepower.







REFLECTIVE LASERS

■ Emits lasers that deflect when they hit surfaces. Best to use in crowded enemy areas.

SURFACE FIREBALLS

■ Sends fireballs along the top and bottom of strongholds. Great for clearing areas out.

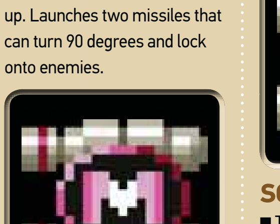
SHOTGUN

■ A new addition. Fires a small explosive charge a short distance before exploding. Good in tight spots.



HOMING LASERS

■ Another new weapon. Emits two orange lasers that bend 45 degrees to target nearby enemies.



HOMING MISSILES

■ The standard missile power-up. Launches two missiles that can turn 90 degrees and lock onto enemies.

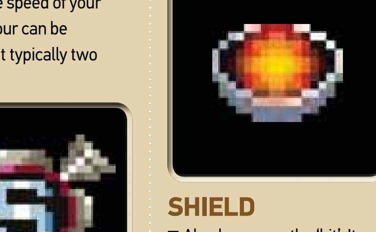
SCATTER BOMBS

■ This new missile is dropped rather than fired. On impact it sends out a shockwave that travels forward.



SPEED-UP

■ Boosts the speed of your ship. Up to four can be collected, but typically two is enough.





SHIELD

■ Also known as the 'bit'. It floats alongside you and is primarily for defence. Up to two can be collected.

DOGRA



BATTALION

WARGS

CONVERSION CAPERS

The game has been converted to multiple systems over the years



▲ AMIGA

■ Arc Developments devoted eight months to this conversion and it was evidently time well spent as it's very close to the original. The trade-off is that the framerate suffers during busier moments, but otherwise it's a first-rate effort.

▼ ATARI ST

■ Similar to the very good Amiga version only with some compromises, the main one being the lack of backgrounds (it's a star field throughout). It also lacks some graphical trimmings – the 'frozen' waterfalls on the second stage, for example.





▲ GAME BOY

■ This is one of those Game Boy titles where you wonder how on earth did the team pull it off. Bar the absence of the fifth stage, this is as close to the original as you could hope for. Great graphics, great music, a great achievement all round.

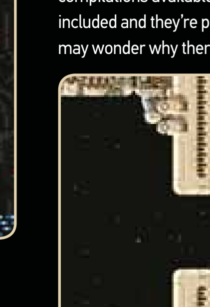


▲ GAME BOY COLOR

■ Included as part of *R-Type DX*, a generous release that includes colourised versions of both GB *R-Type* games (along with the original versions). There's more added than just colour though, with the games getting a visual upgrade throughout.

▼ PLAYSTATION

■ *R-Types* is one of the classiest – and most coveted – retro compilations available for the original PlayStation. Both games are included and they're pretty much arcade perfect – although purists may wonder why there's no second loop.





▲ PLAYSTATION 3/XBOX 360

■ *R-Type Dimensions* is the perfect pack for fans of the series. There are various options and visual modes (including the 'Crazy Camera', pictured) but you're able to suppress all that stuff and enjoy the games in their glorious original forms.



BOSS RUSH

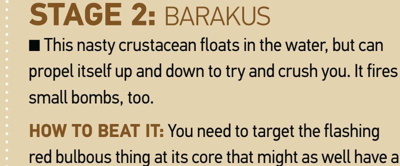
The game's six end-of-stage bosses and how to conquer them



STAGE 1: SUBATOMIC

■ An enhanced version of Dobkeratops, the famous boss from the first game. He's now encased in protective armour.

HOW TO BEAT IT: You can destroy the head armour to reveal its familiar face, but to defeat it you need to target its 'eye' with your plasma beam.



STAGE 2: BARAKUS

■ This nasty crustacean floats in the water, but can propel itself up and down to try and crush you. It fires small bombs, too.

HOW TO BEAT IT: You need to target the flashing red bulbous thing at its core that might as well have a large 'shoot me!' sign on it.



STAGE 3: CORVETTE

■ A huge flying fortress which roves around the screen. It is controlled by small drones which reside inside it.

HOW TO BEAT IT: Those drones are the key. Hit them with your plasma beam or the force when they emerge from the boss.



although there were also some new weapons available for it. The power-ups from the original were retained and they were bolstered by two additions: the shotgun, which discharged a small explosive charge, and the homing laser, which attempted to target nearby enemies. A second missile option was also introduced which produced a scatter bomb effect. While it was nice to have new toys to blow stuff up with, they were largely a missed opportunity and it's safe to say that most players kept faith with the effective arsenal from the original.

Performance-wise there was little improvement over *R-Type*, which ran on Irem's M72 hardware. The sequel was provided in kit form and powered by the newer M82 board, but the guts were the same (chiefly the 16-bit NEC V30 processor) so differences were negligible. Aesthetically, the sequel was more muted, with fewer of the primary colours that made the original pop off the screen, but this did suit the game's grimy 'organic' visuals.

Overall, *R-Type II* was clearly designed for skilled players who had exhausted the original. Elements were adjusted rather than overhauled and, despite fewer stages, the difficulty level was ramped up to increase the challenge (the final stage featured a relentless assault on the traditional 'safe spot' at the far left of the screen). As an enhanced, fine-tuned version of the original the game succeeded, and those reviewers that did bemoan the similarities all conceded that *R-Type II* was a solid, if conservative, sequel (*Your Sinclair* and *Commodore User* went on to award it 93% and 86% respectively, while *C&VG* rated it 92% and called it "a brilliant blast, every bit as good as the original"). Irem played it safe with its key property, but if you wanted a more radical spin on *R-Type* then you had to look no further than the firm's other shooters *Dragon Breed*, *X-Multiply* and *Cosmic Cop* – or indeed the misconceived second sequel *R-Type Leo* which followed in 1992.



» [Arcade] The original *R-Type* is a tough game, but the difficulty is ramped up considerably for its sequel.

R-Type II didn't receive as many home ports as the original. There were no 8-bit computer ports, although a C64 version was mooted at the time. Activision did publish faithful versions for the Amiga and Atari ST, and both were developed by Arc Development which had good form when it came to coin-op conversions. There was also a mightily impressive version for the meagre Game Boy by BITS.

For the Super Nintendo Irem chose not to port *R-Type II* directly and instead made *Super R-Type*, an enhanced version that added an extra stage at the beginning set in open space. Elsewhere most of the boss encounters were either tweaked or changed completely. As home versions go *Super R-Type* was a generous offering, but it was stymied by the baffling decision to remove mid-stage checkpoints. Forcing players back to the start of the stage when they got hit was far more maddening than the frequent slowdown the plagued the game.

Following the release of *Super R-Type* in 1991, Irem made the sensible decision to start bundling both games together. First up was *R-Types* which was released for the PlayStation in 1998, ahead of new series entry *R-Type Delta*. The pack featured arcade-accurate versions of both games plus an FMV sequence. The following year both Game Boy versions were packaged together as *R-Type DX* for the Game Boy Color. Here you could play the games in either their original monochrome or new colourised forms, as well as both games back-to-back for 14 stages of continuous Bydo blasting.



» [Arcade] Design wise *R-Type II* looks very similar to the original game, not that we have a problem with that, mind.

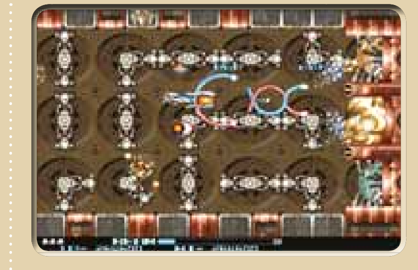
In 2009 R-*Type Dimensions* was released, initially for the Xbox 360 and later for the PlayStation 3. Again this featured both games and you could now flick between the original 2D graphics and fancy 3D visuals. The key addition, however, was a co-op mode so you could finally share shooting duties with a fellow fan. More recently, in 2014, a disappointing mobile version of *R-Type II* was made available for Apple and Android devices. While *R-Type II* may not have pushed the envelope, it's still a solid and extremely tough blaster. *

STAGE 4: RIOS

■ This mobile 'tank' boss moves backwards quickly, forcing you to give chase and avoid the walls in your way.

HOW TO BEAT IT: Because of the oncoming walls it's tricky to target the core. Detach the Force and let that do the work for you.





STAGE 5: BLENDER

■ A gun wall that has three gelatinous reactors. Smaller enemies manipulate the 'walls', making it difficult to move.

HOW TO BEAT IT: Popping all three reactors can be tricky. The easy way is to find a safe spot and blast the wall until it times out.

STAGE 6: WOMB

■ The final boss is an update of the Bydo Core from the climax of the original game. The boss carries two Bydo embryos.

HOW TO BEAT IT: With the force behind you enter the outer chamber. Destroy the first embryo, then plasma beam the second.







THE MAKING OF R-TYPE II

When it came to pushing 8-bit hardware to its limits, programmer Bob Pape was one of the best in the business. Here he reveals how he converted the mighty R-Type II arcade game to the modest Game Boy

Words by Martyn Carroll

The original *R-Type* should not have worked on the Game Boy. All that frantic blasting and those massive enemies on the handheld's tiny monochrome screen? Impossible. Yet BITS programmer Jas Austin defied the odds and delivered a version that was both authentic and worth picking up. The game was released in 1991 and set the standard for arcade conversions on the Game Boy, so it was inevitable that BITS would be called on to convert the sequel.

"Jas had done an excellent conversion of the original *R-Type* but he was tied up on another project," reveals Bob Pape. "I'd just returned from California after working on the Master System version of *Shadow Of The Beast*, and got a call from my agent Jacqui Lyons asking if I'd consider doing the Game Boy version of *R-Type II*. I was free and it was as simple as that." It no doubt helped that Bob's gaming CV already featured the celebrated Spectrum version of the original *R-Type* (see his self-published ebook *It's Behind You* at bizzley.com for the full story of that conversion). What's more, the Game Boy shared the same processor as the ZX Spectrum. Well, kind of.



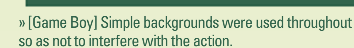
IN THE KNOW

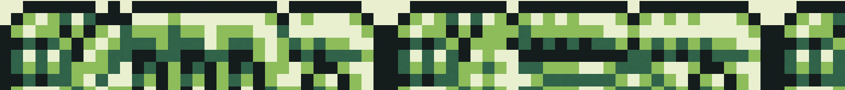
» **PUBLISHER:** IREM
» **DEVELOPER:** BITS
» **RELEASED:** 1992
» **PLATFORM:** GAME BOY
» **GENRE:** SHOOT-'EM-UP

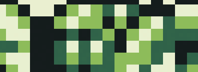
"Since the Game Boy has a processor that is basically a customised 8080, it means half the registers and opcodes that you'd find in the Z80 processor the Spectrum uses are just not there," he explains. "That sounds [like] a disadvantage but what it does is make for some very tight and inventive coding. You have to keep track of everything to a degree that forces you into an incredibly focused way of thinking. I believe those of us used to working on the Spectrum and other low-memory computers found it easy to get to grips with. The experience of working on a machine where you had to scrimp and fight to use every byte was a definite advantage when it came to finding efficient ways to deal with the processor limitations."

The actual coding progressed smoothly, largely thanks to Bob's experience with Speccy *R-Type*. "I was much more confident by then and having already written a version of *R-Type* I didn't have to think about how I was going to implement some of the game mechanics. Things moved from the two-step thinking of, 'How do I do this and then how do I code it?', to the quicker, 'How do I code it?' Where things went a bit wrong though was in believing the Game Boy's hardware




» [Game Boy] Simple backgrounds were used throughout so as not to interfere with the action.





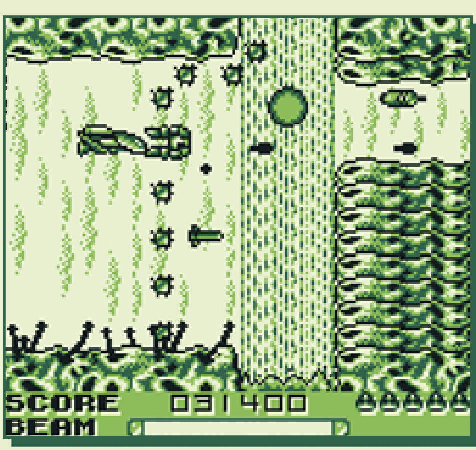


> “THE EXPERIENCE OF WORKING ON A MACHINE WHERE YOU HAD TO SCRIMP AND FIGHT TO USE EVERY BYTE WAS A DEFINITE ADVANTAGE“
>
> Bob Pape

scrolling and sprites would make my job easier, when in fact they painted me into a corner. On the Spectrum I could just keep adding more and more to the screen and all that would happen was the framerate would drop, but with the hardware sprites of the Game Boy, for example, you were limited to how many sprites you could put down on each frame and also where you could put them *and still see them*.”

While Bob was left to grapple with the idiosyncrasies of the Game Boy hardware, he did have some assistance from Irem to help him create the game. “A small but quite thick package arrived in the post one day,” he says. “Inside were colour print-outs of all the graphics in the game. Nothing unusual about that, but Irem had printed just one graphic per page, and there were a lot of graphics. If an alien had eight frames of animation then I had eight sheets of paper. You could literally view the sprite animations like an old-fashioned flip book! They weren’t much use to me so Mark Jones, who did the graphics, ended up with them and they came in handy for mapping out the animation sequences and seeing what each sprite was supposed to look like.”

He also had (limited) access to the original arcade machine. “BITS had the machine at its office in London but it never moved from there,” says Bob, who developed the game at his home in Swansea. “I did get to play on the real thing when I visited the office a couple of times though. The first time was when Mark and I were locked in overnight so we could video the game being played all the way through. We set up a video camera in front of the screen and Mark and I had to play through the thing without



» [Game Boy] The sodden second level features some neat waterfall effects.

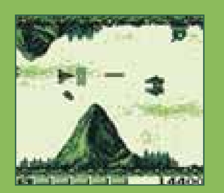
any invincibility settings. We started around 10pm, taking turns playing until we got all the way through. We finished around 6am and in the video you can hear a dawn chorus of birds on the audio and see the screen slowly washing out and the reflections of our faces appearing on the monitor as the sun started to rise.”

The video did prove useful, but Bob would find a more convenient and helpful reference in the shape of *Super R-Type*. This, the Super Nintendo version of *R-Type II*, had already been released so he could play it at home. *Super R-Type* was an updated version of the arcade game that featured an extra level amongst other additions. However, Bob was faced with the prospect of actually *losing* ▶

BEST OF THE REST

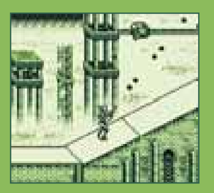
Other stunning coin-op conversions that you must play on Game Boy

NEMESIS



■ To the delight of shoot-'em-up fans Konami’s *Gradius* series also made it to the Game Boy and was a solid alternative to *R-Type*. The first game, released under the coin-op’s original export title, was a brilliant blaster that was clearly designed with the handheld in mind.

PROBOTECTOR



■ More title-changing confusion from Konami. This was basically the Game Boy version of run-and-gun classic *Contra* (although it had more in common with *Super Contra*). It was a full-on action smash that was easily one of the top games available for the system, conversion or otherwise.

DOUBLE DRAGON



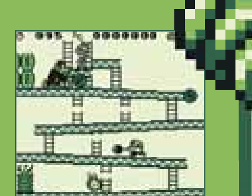
■ The initial batch of *Double Dragon* conversions weren’t much cop, but the Game Boy version was an unexpected hit. Far eclipsing even its own sequels, this was the best brawler on the Game Boy. It was so good that the lack of two-player co-op play could be forgiven.

BOMB JACK

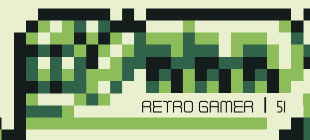


■ Arriving eight years after the arcade game first arrived in 1992, this neat port proved that the simple collect-'em-up gameplay of *Bomb Jack* was timeless – and a perfect fit for the handheld. Like a lot of Game Boy games it was enlivened by excellent music and sound effects throughout.

DONKEY KONG



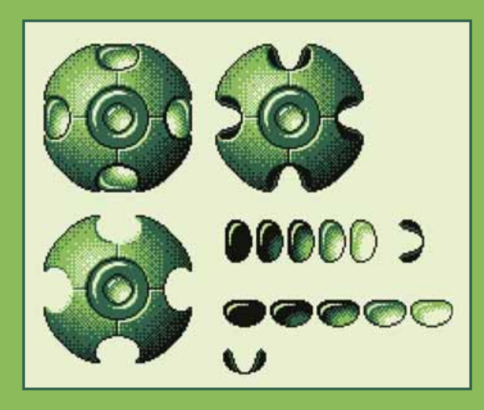
■ Trust Nintendo to show everyone else how to replicate a classic, and then expand it in such a way that it became an entirely new game (and indeed its own long-running series). Although designed for the Super Game Boy it plays perfectly on the original device.





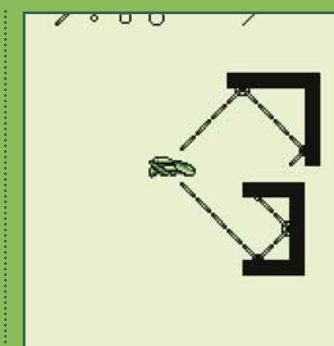
IT'S BEHIND YOU... AGAIN!

In his own words, Bob Pape shares some of the details that shaped the game



SUBSTITUTE BOSS

■ "The level three boss didn't turn out as well as I had hoped so I pitched an alternative to BITS, which is pictured here. The orb bounced around the screen and you had to shoot all of the glowing jewels. It was rejected, though, and the original boss was retained."



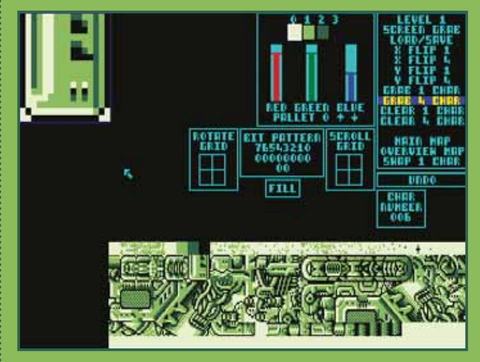
PIXEL PERFECT

■ "The reflective laser was originally only a single pixel wide but you could hardly see it. Fortunately Mark Jones came up with a solution. Having a skilled graphic artist who understood that you could solve some coding problems by just tweaking the graphics was a real bonus."



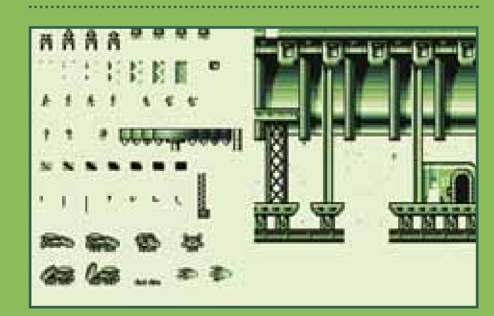
NO HALF MEASURES

■ "Graphics often seem blurry because the LCD screen can display the previous frame's image at half brightness over the current one. I used this to seemingly increase the number of sprites available – but running the game on emulators can make it look like half the graphics aren't there!"



EXPERT EDITOR

■ "The development tools on the PC were crude compared to what's available now, but the graphical DOS-based sprite and tile editor we used on *R-Type II* was miles ahead of the command line-only programs I'd been using up to this point."



ALL SYSTEMS GO

■ "A few sprites, a background and a fast scroll and you have got an FMV intro sequence. Well sort of. When you've only got a small amount of memory to play with then it's time to start improvising."



POWERED UP

■ "The weapon pick-up icons underwent a number of changes. The same goes for the weapons themselves. Here are some alternatives to both that didn't make it into the final version of the game."

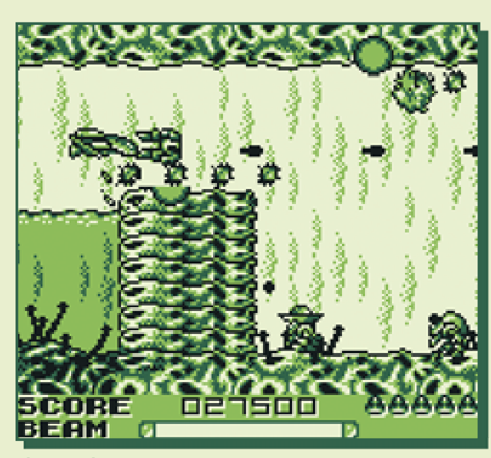
> "THINGS GOT REALLY TIGHT... LEVEL TWO IS JUST EIGHT BYTES SHORT OF 16K"
> Bob Pape

▶ a level from the Game Boy version due to the constraints of cartridge space.

"The Game Boy does everything in 16KB banks of data," he reveals. "BITS told me I had a cartridge size of 128KB to fit the game into, which was eight banks of 16KB. I was aiming to use one bank for all the code then a bank each for the six levels in the game and the last bank for player sprites and music. Unfortunately most of level four moves large parts of the screen around and I knew I wouldn't be able to get anywhere close to getting this right on the Game Boy. The hardware didn't have the power to do it. BITS and Irem accepted that we drop the level from the game which freed up a bank for other things, such as the opening animation sequence and the scrolling game logo. If I had planned it better and cut back on the game content a bit then I might have been able to fit this into memory anyway, along with some kind of attempt at level four, but even without it things got really tight. For example level two is just eight bytes short of 16KB."

Bob succeeded in squeezing the game onto a 128KB cart and it was released in the UK in late 1992. The critical response was solid, with dedicated Game Boy magazine GB Action awarding it 89% in the December 1992 issue. Reviewer Huw Melliar-Smith commented: "It never ceases to amaze me just how well the *R-Types* have been converted onto the diminutive Game Boy screen. If it's at all possible, *R-Type II* is possibly *better* than *R-Type*." The same issue also revealed some curious news: UK high-street chain Woolworths had secured the rights to exclusively release a range of Game Boy titles including *R-Type II*. Outside of the UK the game was released in Europe, Japan and Australia, but the proposed North American release was cancelled for unknown reasons.

It's not clear how well the game sold, but Bob believes that it probably underperformed. "Mere coders would usually never be told commercially sensitive things like sales figures unless we were on



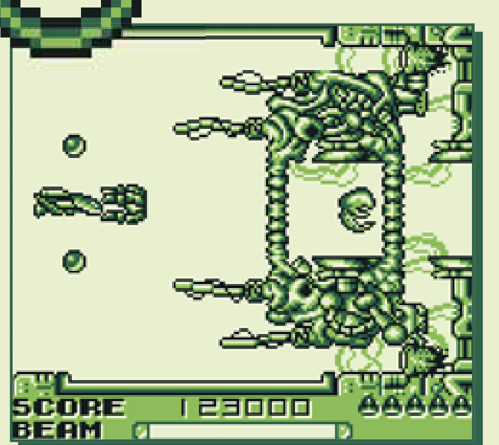
» [Game Boy] Compare the colour correction differences between the original Game Boy release and the DX version on the right.











» [Game Boy] The final challenge: defeat the Bydo embryos to beat the game.

a royalty deal, which was not the case with this title. I don't believe it sold that well compared to other GB titles in the UK because of the restrictive Woolworths-only deal that was made. When you could only buy it from one shop in town you'd had it if that town didn't have a Woolworths! Whether that was a factor in the non-US release though I couldn't say."

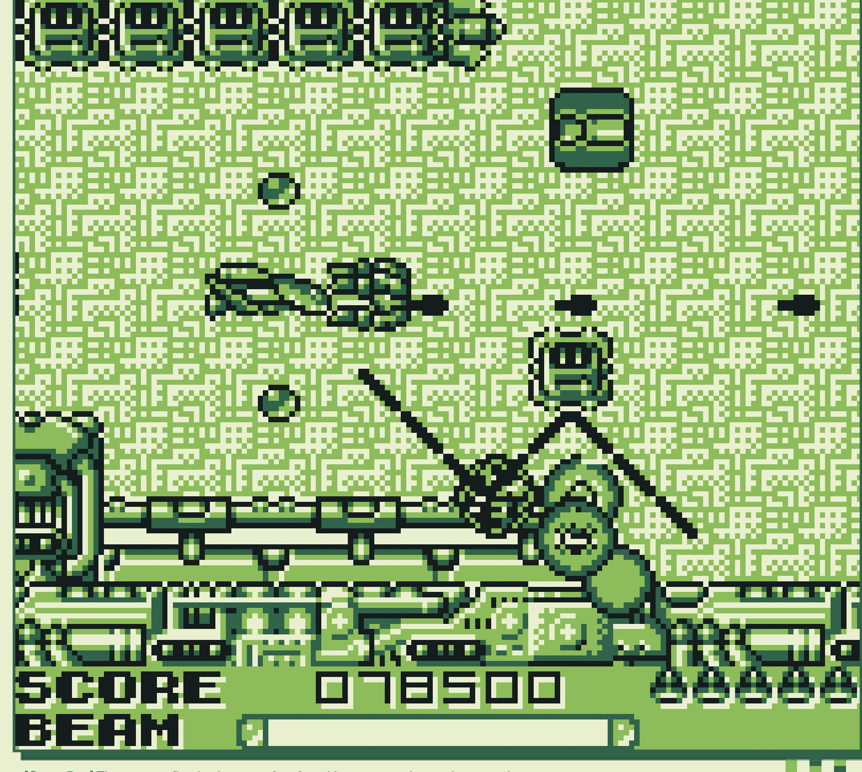
Happily the game received a second bite of the cherry – and a worldwide release – in 1999 as part of *R-Type DX*. This Game Boy Color compilation featured both Jas and Bob's original *R-Type* games along with new colour-enhanced versions, plus the novel 'DX' mode where both games were melded together to create one long mission. While the monochrome versions looked sharper on the GBC's superior screen, they came to life when played in colour. "Myself, Jas Austin and Mark Jones were all involved in putting *R-Type DX* together for BITS," says Bob. "I think it was seen as an easy money-maker since it was just taking the two games we'd already written, keeping all the game coding, adding a few bells and whistles and changing the sprites and backgrounds from mono to colour. In the case of level three I added a brand-new backdrop."

R-Type DX proved to be one of the final game projects Bob was involved with. Having worked across multiple platforms for many years he finally quit the games industry in the early Noughties due to the lack of opportunities for one-man coders. Looking back he is proud of how well received his *R-Type* games are, although with regards to *R-Type II* he feels that he may have been too ambitious in trying to emulate the arcade game. "I tried to keep what was supposed to be on screen to a maximum but it meant that some of the sprites such as enemy bullets were hard to see at times – not the best of things when you're trying to avoid getting shot! To be honest I really should have scaled everything back – reduced the number of aliens, simplified the animations, cut back on the bullets – and just accepted the hardware restrictions of the Game Boy. But I thought I knew better at the time."

It's fitting that we should conclude with something that appears at the end of the game. When you blow the Bydo base and the fleet of R-9s escape, the credits roll and the phrases 'Programmed in Wales' and 'Run Silent, Run Deep' appear on screen. The first was obviously Welsh pride on Bob's part, but what about the second? "When you write games for the likes of Nintendo and Sega they have very strict rules about what you can display on the screen or say in the credits," he explains. "So I would try to come up with seemingly innocuous messages that had hidden meanings. There's nothing untoward about 'Run Silent, Run Deep' though. It's a track off the album *Sacred Heart* by Shakespears Sister which I was listening to at the time. It is of course better known as the title of a great submarine film. I thought it made an apt sign-off." *



» [Game Boy Color] The DX upgrade that came out on the Game Boy successor. The differences are substantial – colour being the main thing.



» [Game Boy] The trusty reflective laser, perfect for taking out enemies on the ground.

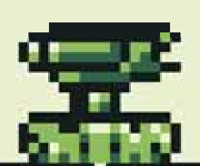


DEVELOPER HIGHLIGHTS

RAMPAGE (PICTURED)
SYSTEM: ZX SPECTRUM
YEAR: 1987

R-TYPE
SYSTEM: ZX SPECTRUM
YEAR: 1988

SHADOW OF THE BEAST
SYSTEM: MASTER SYSTEM
YEAR: 1991





» PUSHING THE LIMITS

Deep Duck Trouble Starring Donald Duck

Sega's artists had no trouble squeezing the best out of old tech for Donald Duck's 8-bit swan song

» **PLATFORM:** MASTER SYSTEM » **DEVELOPER:** SEGA/ASPECT » **RELEASED:** 1994

By the mid-Nineties, Sega had a pretty good reputation for creating licensed platform games featuring Disney characters. *Castle Of Illusion* was great fun no matter which format you played it on and its sequel *Land Of Illusion* was a top Master System game, but Mickey Mouse didn't get all the glory. Donald Duck's adventures *Quackshot* and *Lucky Dime Caper* were highly regarded on the Mega Drive and Master System respectively. With mascot platform games in vogue and an eager young audience to please on the Master System, it's no surprise that Sega gave the venerable 8-bit system one last Disney game, in the form of *Deep Duck Trouble*.

What is more of a surprise is that Sega chose to do a lot of the work on the game in-house – by this point, most development for the 8-bit platforms was being contracted out. *Sonic The Hedgehog 2* 8-bit developer Aspect did have some involvement, most notably supplying the main programmer. However, the sound team was all Sega, and the graphic designers seem to have been too. In fact, they were hardened veterans of Sega's Disney tie-ins by this point – Mikarin had previously been credited on *Castle Of Illusion*, *Quackshot* and *World Of Illusion* for the Mega Drive, while background artists 7LY Big King and Tamun had both worked on *World Of Illusion*.

Despite having to work with a comparatively limited piece of hardware, the artists put a huge amount of effort into making the game look as good as possible, and this is where *Deep Duck Trouble* really shines. You can scarcely believe it's an 8-bit game – it certainly wouldn't be hard to mistake the game for an early Mega Drive effort. What's more, this look has been achieved with relatively few tricks. Though you can attribute Donald's many animations to the 4Mbit cartridge used, colours and graphical memory have just been employed more efficiently than in other games.

Deep Duck Trouble isn't a groundbreaking game in other regards – Saori Kobayashi's music doesn't hint at her later achievements with the *Panzer Dragoon* games, and the game design is solid but rarely innovative. However, if you want to see a visually beautiful Master System game, this is as good a candidate as you'll find. *



HOW IT PUSHED THE LIMITS...

Stunning Sprites
Donald's animations are a treat – he'll shiver in the cold, wilt in the heat and look back at his pursuers. What's doubly impressive is that they all have to be stored twice, as the Master System can't mirror sprites.

Memory Mastery
Almost all of a level's tiles – backgrounds, enemies, items and even the HUD are loaded in RAM at all times. The exception is Donald's animations, which are loaded and discarded when they are needed.

Brilliant Backgrounds
Despite the relatively small number of background tiles available, the artists have provided interesting scenery by arranging them in such a way as to minimise repetition and create attractive ground and cloud textures.

Sly Scrolling
Can the Master System display such large sprites with no flicker? Nope – these birds are background tiles. The screen only scrolls their horizontal segment, leaving the others static, to convey the illusion of animation.



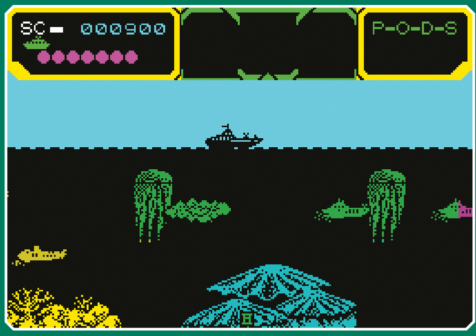
EMERALD SOFTWARE LIMITED

Pints of Guinness and games sounds like a perfect combination. But despite early success, the short-lived Irish developer Emerald Software struggled to become a games industry gem thanks to inexperience and slipping deadlines, as boss David Martin recalls

Words by David Crookes

If location is everything, then David Martin's decision to base his new games development team some 500 miles away in a different country could have appeared a little odd. After all, his main business – Martech Games – had long been established in Pevensey Bay near Eastbourne, so was it the lure of Guinness that took him to Ireland's oldest city, Waterford, or was he merely after a bit of luck?

Neither, as it happened. "We'd heard that the Irish government was offering attractive grants for new technology ventures so myself and John Barry, who was my partner, brother-in-law and a lawyer, set up a series of meetings with the Industrial Development Authority in Dublin," David says. "We secured a £250,000 grant to establish a new games studio." After a year of discussions, Emerald Software was duly born.



» [ZX Spectrum] Emerald Software produced games such as *The Deep* for the main 8-bit and 16-bit computers.

It was March 1988 and the computer game market was rapidly moving away from tiny teams or solo coders working on small-scale projects to much larger-scale productions. "We knew that a lot more focus would be needed on graphics, animation, sound, music and general design and we were aware the days of small freelance teams were over," David explains.

To compete, Martech felt it needed an in-house development team that could bring a range of skills to big projects. "We also had to have dedicated people who could project manage each game rather than leave it to one of the team," David continues. "It was going to be a huge challenge to compete with the bigger publishers who had very deep pockets, but we really had no choice. The plan was that Emerald Software would catapult us to this higher level of development and we could grow from there."



» [Amiga] From poor graphics and terrible sound to lagging controls and a lack of variety, *Vigilante* was not the finest of Amiga beat-'em-ups.

TIMELINE

1987 ■ Martech boss David Martin and John Barry begin talks in Dublin about setting up a new development studio.

1988 ■ **With a £250,000 grant secured, Emerald Software is formed in March.**

■ Mike Dixon becomes MD and the firm is based in Waterford.

■ **US Gold commissions conversions of *The Deep* and *Vigilante*.**

■ Grandslam asks Emerald to develop beat-'em-up *The Running Man*.

1989 ■ **Emerald also works on *Phantom Fighter*, an original game for Martech.**

■ *Phantom Fighter* and *The Deep* are released at the start of the year.

■ ***The Running Man* is also released but *Vigilante* slips to June while the team makes tweaks to the game.**

■ *Crash* magazine (issue 70) says Emerald is set to make *Vinnie Jones Soccer Spectacular*. It's ultimately canned.

■ **Advertisements for more staff are placed in UK computer magazines.**

■ Side-scrolling fighter *Fallen Angel* makes its debut.

1990 ■ ***Michael Jackson's Moonwalker* is released in June.**

■ Poor sales and slipping deadlines catch up with Emerald. Martech also suffers.

1991 ■ **Emerald Software closes its doors.**

"It was going to be a huge challenge to compete with the bigger publishers who had very deep pockets, but we had no choice"

David Martin

One of David's first decisions was to find someone who could head up the new company and the task eventually fell to Mike Dixon, the UK and Europe representative for the US publisher, Datasoft. David and Mike had frequently come into contact when Datasoft looked for new games that could be published in America under licence.

"There were a couple of titles that Datasoft had become interested in, so when I went to the next CES, I had a meeting in their office in Chatsworth, California, and we reached a deal," David says. "But Datasoft hit problems and the opportunity fell away. So when we set up Emerald, we invited Mike to become a partner." Keen to get involved, Mike became Emerald's managing director.

Mike had contacts with a development team in Waterford so it was decided that would make for an ideal location. They scoured the city for suitable premises and hit upon a beautiful three-storey Georgian house called Washington Lodge ("A very grand building," David adds). The city also had its own small airport with a regular service from Luton. "This was perfect unless, as we discovered, it was foggy," says David. "Since it was a pretty basic airfield, fog meant carrying on to Cork which was a pain. Trouble is, Ireland seemed to be foggy a lot."

That, however, was only really an issue for David and John, the two who would remain in London and travel over every other week. They stayed at a rented bungalow where Mike lived when in Ireland. It overlooked the sea and they'd regularly visit the local pubs, many of which played great live music. "One night we found ourselves in the middle of a collection 'for the boys'," David recalls. "But there was a lot of Guinness which was definitely a big plus."



» [Amiga] Grandslam commissioned Emerald to produce a brawler based on the Schwarzenegger film *The Running Man*.

During the days, much work was being done (despite the presence of a coin-op in the building's lobby) and Emerald Software sought to attract graduates or placement students from the Waterford Regional Technical College as well as University College Dublin. At the same time, they looked for projects, hitting the ground running by taking on development work for other publishers which helped to build the teams they needed.

Emerald converted the obscure coin-op *The Deep*, which was commissioned by US Gold for the Commodore Amiga, Atari ST, Commodore 64, ▶

» Emerald made its fair share of games for Commodore's 16-bit home computer.



THE DNA OF EMERALD SOFTWARE

Ireland

■ Although David Martin and Martech had already set up a small development studio in Brighton called Intelligent Design, they were attracted to set up a second developer in Ireland when they heard the Irish government was offering grants for technology ventures. Emerald Software was named after Ireland's nickname of the Emerald Isle.



Conversions

■ Emerald Software created original software among its handful of third-party published titles. But it also relied on being licensed to produce games based on arcades and movies by some of the leading publishers of the day, most notably US Gold. The money such titles generated for Emerald allowed it to grow quickly.

Home computers

■ David Martin's attention was well and truly focussed on the major home computers of the day: the PC, Amiga, Atari ST, ZX Spectrum, Commodore 64 and Amstrad CPC. That's because console gaming was still rather niche in the UK and it remained so throughout Emerald's very short lifespan. Not that it wasn't keeping an eye on the future.

Inexperience



■ There was great merit in hiring a young team that was mostly picked from the local college in Waterford: they were passionate, full of energy, talented and eager to learn from each other. Yet they were also inexperienced both in the production of games and a working environment that relied so much on hitting deadlines.

Investment

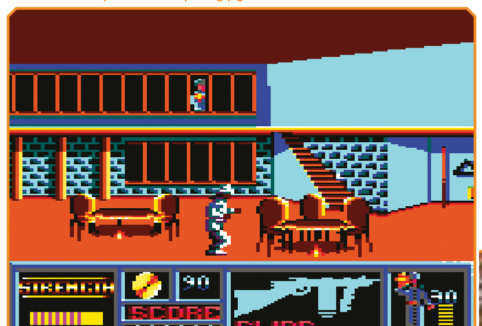
■ According to David Martin, the ultimate collapse of Emerald was certainly not down to underfunding. He says he had bought several reverse-engineered Nintendo development kits and that a lot of cash was also pumped into other hardware and software. "The teams had everything they needed, that's for sure," he says.

ZX Spectrum and Amstrad CPC. The game involved defending a ship from a variety of submarines but it sadly lacked depth despite the addition of stages and some extra features not present in the arcade version. As such, the game didn't review particularly well and, dare we say, it sank without trace. But the commission was a foot in the door for Emerald and a positive step. "It gave us immediate cashflow and a clearly defined project," David says.

Another third-party project was *The Running Man*, a beat-'em-up based on the movie starring Arnold Schwarzenegger. Produced for MSX, ZX Spectrum, C64, Amstrad CPC, Amiga and Atari ST, it was published by Grandslam Entertainment and it had a superb intro on the Amiga made up of animated scenes from the film to whet the appetite for the action to come (it took up a full 800k disk). The game involved trying to get Arnie to escape over five scrolling levels, by punching, kicking and crawling his way to the end. But in some sense, development of these games was also proving to be a battle.

The problem was that the developer had taken on a lot of work. Indeed, it also been commissioned by US Gold to make *Michael Jackson's Moonwalker* and work had got underway on *Vigilante*, too. Both were big projects: for *Moonwalker*, four different levels had to be created, from top-down jaunts through a maze to a side-scrolling shoot-'em-up to an *Operation Wolf*-style blast. For *Vigilante*, Emerald had to take on the 8-bit/16-bit computer ports on behalf of US Gold, for a 1988 beat-em-up originally developed in Japan by Irem.

» [Amstrad CPC] *Moonwalker* included renditions of Michael Jackson classics and they sounded surprisingly good on the Amstrad.



Already, the signs of strain were beginning to show. "We were working on way too many projects for a startup," David admits, and this was compounded by trying to draw in too many coders, artist and musicians at once. Recruitment from the colleges had proven to be rapid and advertisements were placed in UK magazines for additional programmers and graphic artists to come forward.

At its height, Emerald ended up taking on 17 programmers, six graphic artists plus project leads and administrators and everyone was a full-time employee which was a requirement for the IDA funding. "Most new staff came from the college," says David. "We held a lot of interviews and gave a lot of people a chance to prove what they could do. But with hindsight we took on too many staff too quickly. So while we ended up with a lot of very talented programmers and artists, there was a lot of inexperience with the development of games, and that came back to bite us hard. We should have moved more slowly and built each team one at a time."

Even so, the developers were not afraid of hard work and they'd put in all-night shifts and often worked for seven days a week at times. The young team also had bags of energy and thought nothing of trying to produce games in a matter of months (Bobby Healey recalled in an interview with the website, gamedevelopers.ie, that he created a port of *The Running Man* from start to finish in three weeks, dumping 90 per cent of the graphics in the process). In general, there would be one programmer and a graphic artist assigned to a game with help from the rest of the team when the others needed it. They were also paid a decent wage.



» [PC] The shoot-'em-up *Phantom Fighter* was renamed *If It Moves Shoot It!* for its release in the USA.

"We got there in the end, but deadlines had been missed, which was far from an ideal start"

David Martin

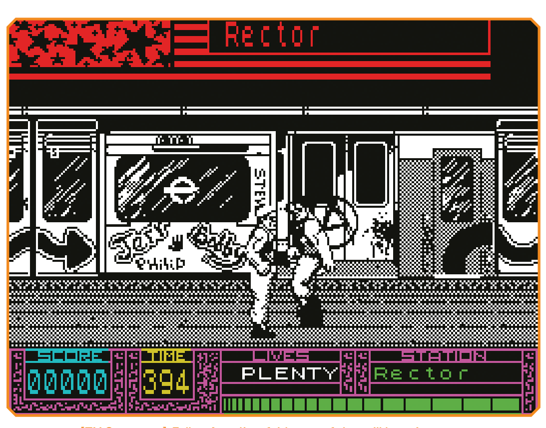
But it took the team a little while to realise there was a problem. "At first things went really well, the demos looked amazing and were even used in stores to demonstrate new hardware," David explains. "But as development progressed the problems of inexperience began to surface and we had to let some people go which brought further pressures on teams already stretched to hit their deadlines. We got there in the end, but deadlines had been missed, which was far from an ideal start."

Despite that, the company invested a lot of money in kit and software for various platforms, keen to make the venture a success. "We also developed in-house technologies that we could use more quickly on games that we could publish ourselves," David says. Among these was a proprietary disk format for the Amiga called KOS which was written by Brian Kelly and allowed more data to fit on to a disk.

In general, games for the 16-bits were made on the Amiga first and then ported to the Atari ST using self-made tools, again created by Brian. Meanwhile, Spectrum and CPC games were produced on a PC connected to the Speccy, with coder Damian Scattergood mainly carrying out the Z80 developments.

Such dedication yielded solid results. "*Fallen Angel* was a side-scrolling fighting game set in the New York subways and it was a perfectly good game with lovely graphics and good gameplay," David says. *Phantom Fighter*, which was published by Martech, was also worthy of praise. Coded by Billy Newport and with graphics by Paul McLaughlin, this progressive scrolling shoot-'em-up was responsive and fun, with a great variety of weapons and some well-arranged attack formations.

That didn't prevent it causing controversy, however. "We'd left an unfinished preview demo of the game with a magazine which then, without our knowledge, went ahead and reviewed it, criticising the game for things that were not even finished," remembers David. "We were incensed, and I sought and obtained a legal injunction in court against that issue being published. It was later overturned and got published but the damage to the game was done. I can't remember which magazine it was, but they behaved very badly."



» [ZX Spectrum] *Fallen Angel* is a fairly run-of-the-mill beat-'em-up which begins with a fistfight on the London Underground.



» [Amiga] Emerald Software was set up as an in-house developer for Martech, which ended up publishing *Phantom Fighter*.

By 1990, just two years after forming, things were looking pretty bad for Emerald. Mike left the company and a scaled-down team worked on the development of the isometric puzzler *Treasure Trap* which was a homage, to some degree, to classic Ultimate Play The Game titles (there were definite shades of *Head Over Heels* as players worked their way around a vast ship to search for scattered gold amid the cabins). Cashflow at Emerald had become tight at this time and David began firefighting, while also trying to keep a focus on Martech.

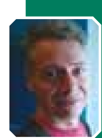
"Too many third-party projects slipped and the games we published ourselves did not sell that well, for a variety of reasons," David says. "We tried to keep things afloat by trimming the teams and pre-selling games based on their demos, but it was tough. In addition, Martech was also having problems of its own and was no longer in a position to help fund the studio. When the money ran out, it had to close." Some of the team then set up a new company called Doodlebug Designs and worked on the completion of *Treasure Trap* but, with Martech also gone soon after, David moved on to Gremlin and became their licensing and then marketing director. A lot of Emerald kit and quite a few staff ended up in Sheffield, too. "Emerald Software was a brave venture and we learnt a lot about how to set up and run a studio from scratch, but sadly, too late," concludes David. *

WHERE ARE THEY NOW?



David Martin

■ David Martin continued to have a very successful career in videogames, moving to Gremlin Graphics as a licensing and marketing director where he brought in properties including *HeroQuest* and *Lotus*. He also set up Caffeine Studios which published *Football World Manager* through Ubisoft and, when Rage bought Caffeine, he became that company's group licensing director, gaining the games publishing rights for David Beckham and the *Rocky* movie franchise. He then formed a small development studio called Big Kids but he eventually fell out of love with the videogames industry.



Paul McLaughlin

■ We draw attention to Paul McLaughlin for a reason: of all of the Emerald's alumni, he is arguably the most successful. After Emerald's collapse, he later moved to the United Kingdom and eventually ended up as head of art at Bullfrog. That began a very long association with Peter Molyneux, with Paul also moving to Lionhead and 22Cans. During his long career, he has worked on *Populous II: Trials of the Olympian Gods*, *Theme Park*, *Syndicate*, *Dungeon Keeper*, *Black & White* and *Fable*.



Atari 2600 fact

■ Though the Atari 2600's $199 launch price looks like a reasonable sum, it's important to remember to adjust that price for inflation – $199 in 1977 is equivalent to $826.17 in 2018!

PROCESSOR: 8-BIT MOS TECHNOLOGY 6507 CPU (1.19MHZ)

RAM: 128 BYTES

GRAPHICS: TIA (TELEVISION INTERFACE ADAPTER) WITH MAXIMUM 160X152 RESOLUTION, FIVE OBJECTS (TWO SPRITES, TWO MISSILES AND A BALL), UP TO FOUR COLOURS PER LINE (FROM PALETTE OF 192)

AUDIO: TIA WITH TWO CHANNELS OF 1-BIT MONO SOUND

MEDIA: ROM CARTRIDGE (4KB, UP TO 64KB WITH BANKSWITCHING)

Atari 2600

» **MANUFACTURER:** Atari Inc » **YEAR:** 1977 » **COST:** $199 (launch), £25+ (today)

When designing the Atari 2600, there was so little precedent that Atari had almost no guidance as to what a games console could or should look like. The result was so influential that it's still recognisable for its purpose over four decades later, while clearly being a product of its time – the black plastic and woodgrain effect panel is a combination that could only have been applied to Seventies technology. Still, there are peculiarities. The bank of metal switches on the front of the console is indicative of a time when in-game options menus just didn't exist, and the decision to put the control ports at the rear of the machine is unusual.

The Atari 2600 (or VCS, as it was known during its early years) went through a number of design revisions over the years while still retaining its recognisable form factor. The early 'Heavy Sixer' models had six switches on the machine and a very thick plastic base, and the much more common 'Light Sixer' is what you see here. Later models cut six switches down to four, and the 'Darth Vader' revision replaced the woodgrain with a black panel. The classic model was finally superseded by the Atari 2600 'Junior' in 1986.



EDITOR'S CHOICE Pitfall!

David Crane's masterwork is everything that we love about Atari 2600 games – a simple concept that's easy to pick up and play, a good challenge and highly replayable. However, thanks to the programmer's technical mastery, it's also very attractive with a nice jungle environment and a *Tarzan*-style ditty that plays when swinging from a rope. The design makes up for the system's limited resources by stitching a small number of mini-challenges together in various combinations to make a large variety of unique screens. There are plenty of copies out there, so there's no excuse not to have it in your collection.

THE HISTORY OF COOL SPOT

WHILE THE RED SPOT MIGHT NOT TOP THE MOST ICONIC MASCOTS OF ALL TIME LISTS, FOR GAMERS THE CHARACTER'S BRIEF STINT IN THE INDUSTRY LEFT A DISTINCT MARK. WE TAKE A LOOK AT HOW 7UP'S COOL SPOT FARED IN GAMING

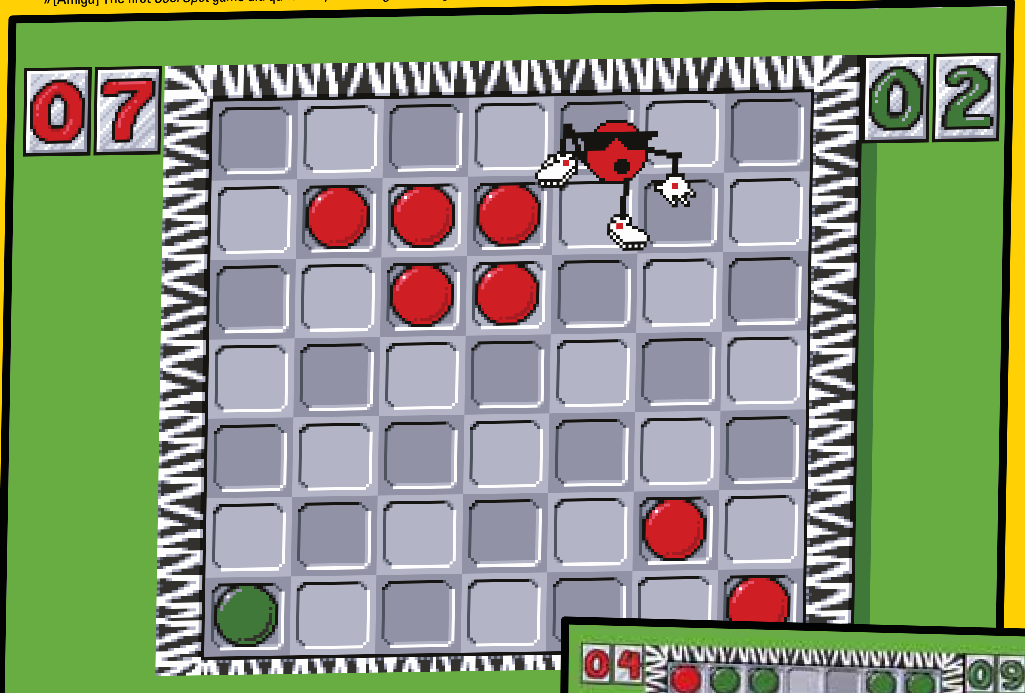
Words by Adam Barnes

The ad men of the Eighties and Nineties had it easy, didn't they? It seems like all it took was to apply a backwards cap to a mascot and have them rollerskating in their advert and that's all they'd need to do for a job well done. As long as there was some vague attempt at honing in on that 'radical' attitude that was so prevalent at the time that was the marketing team finished for the year. Of course we're being glib, but it does seem as though the Eighties and Nineties were crammed with mascots all designed in a bid to clamour for this new 'cool' demographic, a younger audience that wanted to wear Air Jordans, listen to music with a boombox and play all the latest videogames. And in that sense it was something of a perfect storm for the games industry at the time, too: the collective US companies had clawed themselves



» [SNES] European gamers would've likely been unaware that Cool Spot was actually a mascot for 7up at the time.

» [Amiga] The first *Cool Spot* game did quite well, with *Amiga Power* giving it an impressive 88%.



out of the crash and games were starting to make money again. Quite a lot, in fact. It was a win-win situation for many license holders, who could grasp at what they saw as easy money *and* get some bonus 'cool points' for being a part of the booming trend of videogames. It's why the 8-bit and 16-bit consoles were crammed with so many unusual licensed tie-ins, some more obvious than others. Disney, for example, was something of a champion during the period, leveraging its well-loved franchises for games that went on to become equally well loved. But then there were some really quite obscure decisions made, too, such as a *Blues Brothers* game – as cool as the film may be, it's hardly got much value as a videogame. But the worst were the mascots, who were crowbarred and squeezed into a loose gaming concept just so the licensee's execs could say that they had the market covered. By all rights, *Cool Spot* should have been such disaster, the marketing bigwigs in America having decided that the most notable thing about 7up was the logo's red dot. And yet a circle was to be not only the new mascot for a fizzy lemon drink, but the star of a videogame.

And while many will consider the beginning – and perhaps even end – of the story to start with Spot's first outing on the SNES and Mega Drive, it's important to remember that the 7up mascot had been knocking around since 1987. Though he was resigned exclusively to a US audience – it was the silent cartoon of Fido Dido that remained the face of the drink in Europe – he had still become a fairly familiar character, popping out of bottles in the adverts to take part in some zany action. It was with his first game, an inconsequential puzzle game that saw Spot translated quite literally into a game about spots. The *Reversi*-like gameplay simply had players moving discs around the board, the only noticeable association with Cool Spot being a number of animations that visualised the movements of board pieces. It was a case of a brand dipping its toe in the waters that was the games industry and with only weeks to complete the project it wasn't exactly like there was much scope to produce a more notable game. *Spot: The Video Game* was well done, admittedly, but didn't offer much and wasn't of any real commercial value. It appealed to a select few puzzle game fans and released in 1990 on the key platforms of Amiga, Atari ST, NES and PC, with a version also making it to Game Boy. Though the concept was heavily drawn from Cool Spot's ability to appear from the 7up logo, it seems the box itself showcased the character more than the actual game. In-game he skateboards, dances or makes his way about the board – depending on the move made – but it was hard to really represent such a character in such an abstract title. However, it was Virgin – at the time known as Virgin Mastertronic – that had ▶

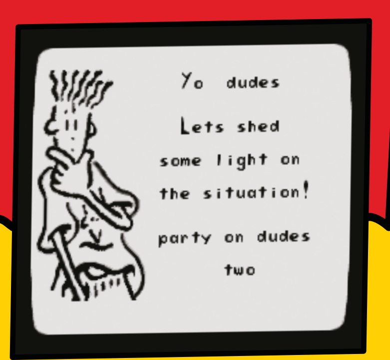
WHERE'S FIDO?

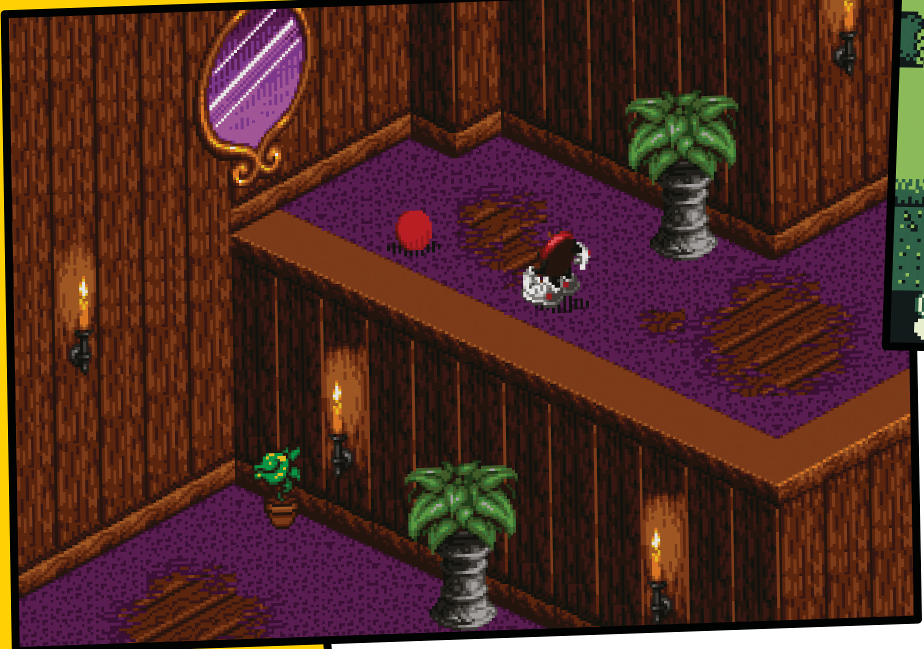
What happened to the other 7up mascot's game?



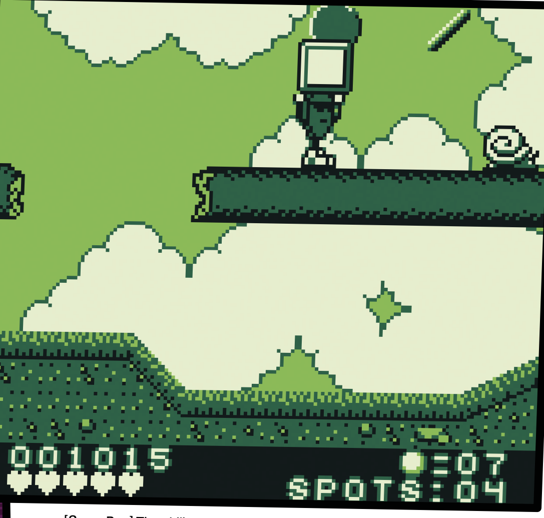
What do you do when your product has two distinctly different mascots in two different regions but you want to produce a game to associate with your brand? Well, produce two completely different games and then cancel one right at the last minute. Fido Dido, 7up's mascot in Europe, was due to have his own game that would release in 1993 around the same time as *Cool Spot*. It went all the way through production and got rated by Sega ready for publishing. There was even a *Sega Pro* review published in 1994 that claims the game was "out now". And yet no one seems to know why it was never released.

It's strange, too, because it's not like the game was totally lacking. It weighed a little more heavily on the Eighties slang then perhaps *Cool Spot* did, with the hunched hands-in-pockets walking of Fido perfectly encapsulating the coolness of nonchalance that was so, like, totally new wave, man. Terms like "Uncool!" when dying or "Party on dudes" when starting a level are a little cringeworthy now, but at the time no one would have bat an eyelid. The mechanics were interesting, too, utilising the 'story' of Fido's character - in that he was the incarnated doodle of a daydreaming artist - to give him different abilities with each level: drawing a block for bespoke platforms, placing fuses inside a machine or clambering up ropes. It had a decent amount of variety and did something different, but it's not quite known why the decision was made to scrap it at the very last minute.

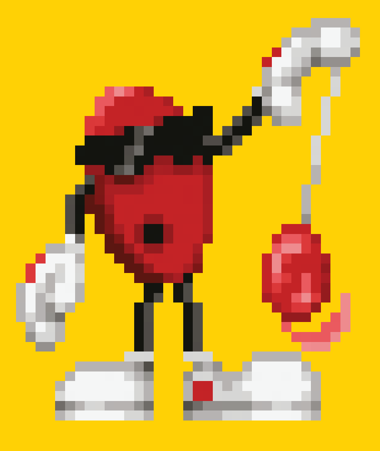




» [Mega Drive] There are four thematic stages in *Spot Goes To Hollywood*, and within those different levels based on that theme. You still need to collect 60 per cent of the Cool Points.



» [Game Boy] The ability to pick up squares and throw them was about as original as *Spot: The Cool Adventure* got.



dealt with the game and its work with the mascot was enough to spark interest in something more. The company was growing, its association with good quality licensed games was becoming well known and though it didn't yet have the reputation for some of the best platformers of the 16-bit era, it was the humble 7up mascot that was about to change all that.

"So, I had submitted an RPG game design to Virgin," says Will Anderson of how he got involved with the project, "asking if they want to do the game with me and I'd come in and program and design it. They called me in for an interview and I thought that's what that was about. Stephen Clarke Wilson who was director of R&D at the time, he brought me in for the interview and he sat me down and he said, 'We want to hire you as a designer, and we want you to design *Cool Spot*.'" The game had already been planned at Virgin after the release of *Spot: The Video Game* and, as Will explains, the developer and publisher also knew it was going to be a platformer before they even had the team to create it. "I told him I had no experience designing platform games and he pulled out my RPG game design – which was like 350 pages long with charts and diagrams and specs and everything else that an RPG needs – and he said, 'Anybody that can document this can easily do a platform game.'" Will was brought on as a designer, then, with a team being built by Virgin to put together a game that utilised the cool character in a platformer.

"It kinda got off to a slow start," recalls Will, "and it's mainly because the programmer I was working with at the time… you know, he was good at making little mods but he wasn't really good at making games. So he never actually got past doing Cool Spot's surfing-on-the-bottle intro screen and we found out later, and the reason why we switched him out for David Perry, was he actually used up all the memory on the carts just to do that title screen." But it wasn't only the slow efforts of a lone programmer that initially held up the development process because, as was quickly discovered, there were some problems surrounding the mascot himself and what could be done with him in this game. "There was some bickering going on between Virgin Games, the 7up Company and the marketing company," says Will, "because a lot of people didn't realise that Cool Spot was actually

CONVERSION CAPERS

The different versions of 1993's Cool Spot



▲ MEGA DRIVE

■ Of the two console versions, the Mega Drive one is slicker and smoother due to the enhanced speed of the platform. As such the intricate animations and pseudo-3D sprites that are an iconic part of the game are best seen on Sega's 16-bit console.



▼ SNES

■ All told, the age-old story of better backgrounds and brighter colours still rings true with the SNES version. One weird omission, though, is the lack of a score pop-up that appears on most other versions each time Spot collects a… well, spot.



▲ DOS

■ Little extra was done to port the game over to PCs, and so the DOS version is essentially a rerelease of the SNES version. It matches the quality of its backgrounds, also has that score mark omission and is a little smoother to play due to the extra hardware resources.

▼ MASTER SYSTEM

■ It's strange that a Master System conversion was commissioned but not a NES one. Everything in this version was flatter and a dark edge was added to everything to better distinguish platforms and characters, but otherwise it was a solid port.

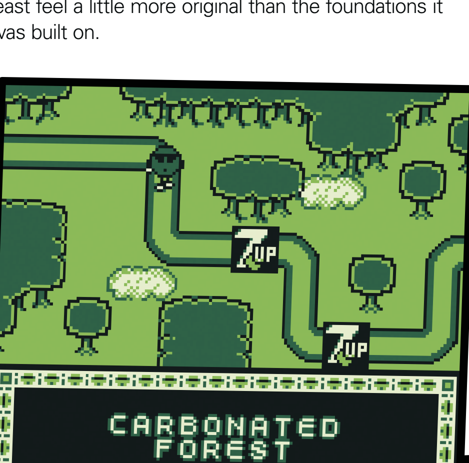


"THERE WAS SOME BICKERING GOING ON BETWEEN VIRGIN GAMES, THE 7UP COMPANY AND THE MARKETING COMPANY"
Will Anderson

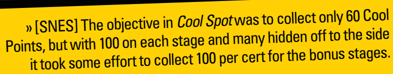
jointly owned. It's owned by 7up but it is also owned by the marketing company that came up with the ad campaign. So there were a lot of weird negotiations going back and forth on what the game is going to be, and Virgin was getting upset with them because neither wanted to make up their mind about what they want." These discussions meant that with no real idea about how the game should actually play, there wasn't much that Will or the team could do to make any progress. These discussions continued and continued, and still no movement until Virgin "reached a point where they said 'we're tired of this back and forth'" and decided to put *Cool Spot* on hold. Will and the team, as a result, was moved on to another one of Virgin's licensed products that were in preproduction, a title for McDonald's that would go on to be known as *Global Gladiators*. It took the release – and subsequent success – of this game that ultimately sparked the two warring owners of *Cool Spot* to call a truce and give Virgin full control of its development. "Once *Global Gladiators* was a hit," Will laughs, "they came back to us and said 'We don't care what you do, just make us a game.'"

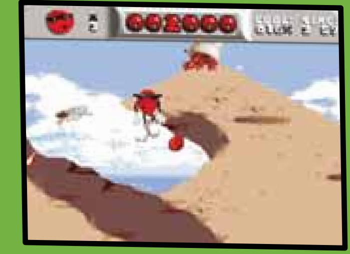
In the meantime a Game Boy exclusive *Cool Spot* game was commissioned, releasing rather unceremoniously in Europe in 1992, America in 1993 and finally Japan in 1994 – the only time Spot made it officially to Japan, in fact. Released under the name of *Spot: The Cool Adventure*, the game was actually developed outside of Virgin at Visual Concepts as a game separate from the Game Boy port that was planned for *Cool Spot*. While Will and his team had learnt from the experience of developing *Global Gladiators* for McDonald's for the console game, the situation was a little different here. It was, in fact, a port of Virgin's previously released McDonald's NES game *MC Kids*. Though the latter had rather obvious influences from *Super Mario Bros 3*, the port to handheld (and switch in character) meant that the similarities to Nintendo's well-loved platformer were diluted down. The unique twists that *MC Kids* had brought to the table – especially the ability to pick up squares from the level – were carried over, too, helping Cool Spot's first platforming adventure to at least feel a little more original than the foundations it was built on.

This was not much more than a stopgap, however, its nature as a port of an existing game meaning that there wasn't as much debate over its design as the main project and, therefore, its development trundled on without concern. With development of the console game now back on, though, it was now necessary to figure out exactly what Cool Spot – as a mascot, as a brand and as a playable character – actually stood for. Here was a red dot that could come to life from the side of a 7up bottle and get into various antics, which admittedly offered up a rather large scope. The focus ended up being that sense of 'cool', from which came Spot's swagger, his finger-clicking jiving and his exaggerated rolls, dives and spins as he navigated the level. "There were certain things about the character that stood out," says David Bishop, executive designer at Virgin and one of the minds controlling how the company's licenses should have been used. "He is never seen by humans, quite mischievous, adventurous – so those things were built into the design. But beyond that we just wanted to make a kick-arse platform game that used this character, and Cool Spot had certain traits in how he moved that ▶






» [SNES] The objective in *Cool Spot* was to collect only 60 Cool Points, but with 100 on each stage and many hidden off to the side it took some effort to collect 100 per cent for the bonus stages.



▲ AMIGA

■ Requiring a whole 1MB of memory to play on the Amiga meant that there were some restrictions involved, but it sufficed to match the quality of animation, graphics and sound. It wasn't as well-rounded as its competition, but at this point that was kind of an expectation.

▼ GAME BOY

■ Everything you might have expected from a Game Boy port of a console game. Pared-down graphics and slower overall speeds. It wasn't an especially considered port, but it did manage to match the game's levels almost like-for-like.





▲ GAME GEAR

■ The Game Boy and the Game Gear versions were essentially identical if not for the addition of colour on the Sega handheld. The tiny screen does make it hard to see in action, but the addition of the same dark line as the Master System does help.

UNBALANCED DIET

When food brands tried to use games as marketing tools

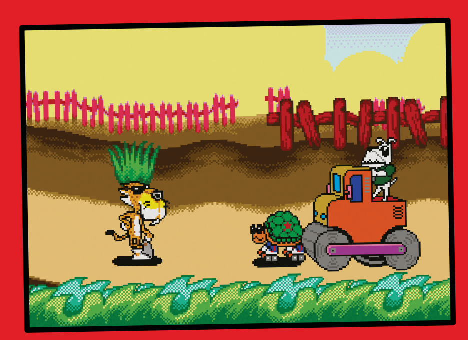


▲ GLOBAL GLADIATORS

■ This was the game that preceded *Cool Spot* and taught the team at Virgin a lot of things about producing platformers based on licences – a skill the developer would leverage for great success throughout the generation. *Global Gladiators* is surprisingly considered and robust and, even with the licensing, managed to be a great game.

▼ CHESTER CHEETAH: TOO COOL TO FOOL

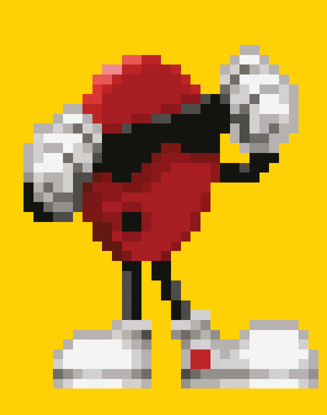
■ Perhaps the only mascot of the era to have survived until the modern day, the developer behind *Chester Cheetah* was the same one behind the cancelled Fido Dido game. What is interesting is how there's no mention of Cheetos throughout, but this wasn't the only title that the cheesy cheetah starred in – a sequel was released under the name *Wild Wild Quest*.





▲ SNEAK KING

■ Though the concept of advergaming had long since died out by 2006, Burger King decided the creepy masked royalty from its adverts at the time would make for a suitable game about sneaking around and force-feeding people burgers. It was produced with all the quality you might expect of a cheap Xbox Live game but it was novel enough that it got people talking.

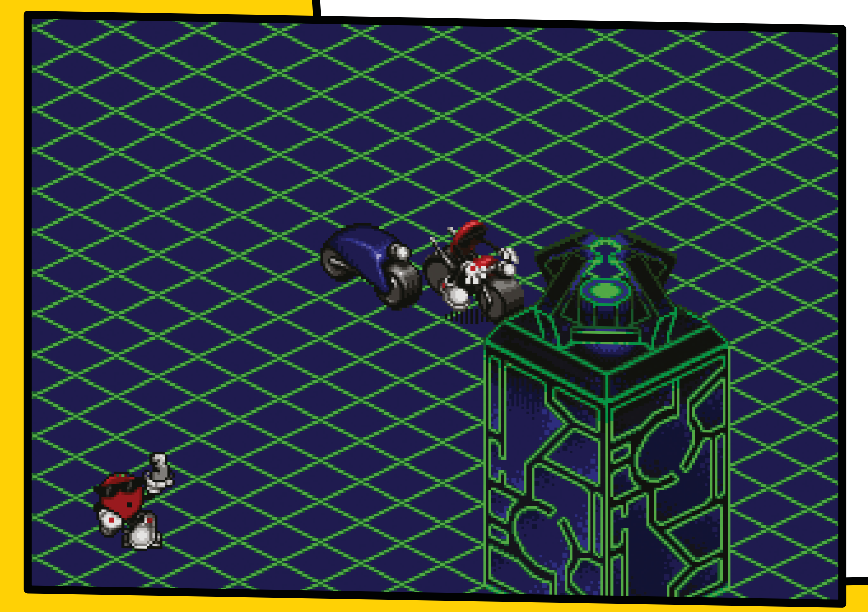


» [Mega Drive] Some of the cinematic references in *Spot Goes To Hollywood* were obvious, and very much of their time.

▶ the amazingly talented animators captured really well." There was an important issue that did need to be considered, though, one that concerned two sides of an entire ocean. Since *Cool Spot* was exclusively American, if the game was to appeal to the other side of the Atlantic it would need to avoid too much association with the 7up brand itself. "In Europe it was an unbranded game, really," admits David. "It had to stand on its own feet. I mean apart from the fact that the bonus levels were set inside this world with all the bubbles that you had to jump through, it was obvious that you were inside a bottle of 7up if you knew what the game had to do with 7up. But the bonus levels were fun anyway, even if it wasn't to do with 7up, and that was part of our brief: to make it a great game, as if it was an unbranded game because we knew that this would be the case in Europe."

This was something of a rare opportunity, which gave Virgin a great deal of freedom with design that isn't often available when working on a licensed product. The resulting game went on to become one of the more well-known titles of the 16-bit era, releasing at first on Mega Drive and SNES across 1993 and 1994 and then ported to the various spectrum of popular platforms at the time during the same period. It was an immediate success, appealing to audiences on both continents regardless of their existing appreciation for the character. "It did really well in Europe," says David, "it's remembered with a lot of fondness by a lot of people, which is great. And people to this day still don't know it was a 7up game." Everyone was happy with the instant acclaim the game had garnered, whether it was the gamers getting to play a high-quality platformer, Virgin's boosted recognition from dealing with such a significant brand or 7up, which was able to get its mascot on the covers of gaming magazines as a result of its vast appeal. Virgin was already in talks about doing a sequel and it didn't take much to get 7up on board. The trouble is, this was at a time of upheaval for Virgin: David Perry and much of his team had left to form Shiny Entertainment, a significant blow to the operation.

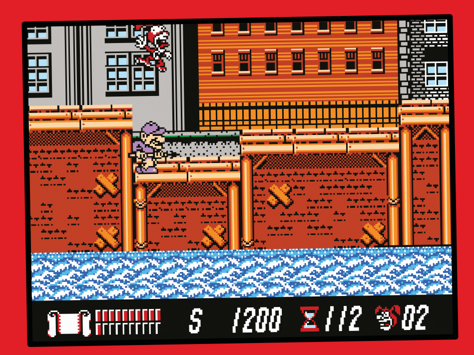
"I had a major history with Dave Bishop on *Spot Goes To Hollywood*," recalls Will. "At that time things were getting shaky, and we had the opportunity to do the sequel for *Cool Spot*. I said: 'Okay, I've got all these ideas for doing *Cool Spot 2*'. And David Bishop had gone to one of these





YO! NOID

■ Perhaps one of the worst conceived mascots of the Eighties, the Noid – Domino's strange bunny-eared pizza-delivering superhero – was actually the star of two of his own games, first *Avoid The Noid* released on Commodore 64 and then *Yo! Noid* released on NES. The latter was the better of the two, unsurprising considering it was developed by Capcom.





PEPSIMAN

■ Exclusive to Japan, Pepsiman was a Pepsi-delivering hero whose incredible feats of stamina could see him sprint great distances. His game, also released only in Japan, was akin to contemporary mobile games like *Temple Run* with persistent running, where the player would have to suffer countless Pepsi logos throughout any given level.



"I DIDN'T SEE THE POINT, I DIDN'T SEE THE INTEREST, WE WERE BASICALLY GOING TO IGNORE ALL OF THE SUCCESS WE JUST HAD"
Will Andserson

game expos and he had seen *Sonic 3D* there. He came back and was in love with the idea of doing an isometric game. And I was dead set against it, I said: 'If you wanna do an isometric game with *Cool Spot* that's all well and good, but the public wants another [platformer] because everybody loves it, everybody is talking about getting a sequel.' And David Bishop was like, 'No, no, we're going to do this isometric stuff instead, it's a whole new game.' I didn't see the point, I didn't see the interest, we were basically going to ignore all of the success we just had with the product and do something completely different. I saw that they were just trying to follow what Sega was doing, and I thought we should've just given the public what they wanted." Unsurprisingly considering his views, Will did not stick around to work on this new *Cool Spot* game and without David Perry and the team that had made the likes of *Global Gladiators*, *Aladdin* and *Cool Spot*, Virgin decided instead to enlist UK developer Eurocom. It seems that Virgin should've perhaps listened to his opinion, however: as history has proven, Sega's attempt at innovating the genre with *Sonic 3D* didn't work out quite as well as it might've first seemed it would. *Spot Goes To Hollywood*, as Virgin would name its own isometric platformer, suffered from the very same problems; despite its great visuals and audio – reputed traits for Virgin Interactive games of the time – many



» [Mega Drive] There is a good variety to each of the levels, with a good sense of exploration to each – however difficult that exploration may be.

considered the game to be practically unplayable. It released in 1995 on Mega Drive and SNES, before making its way – unenhanced – onto Sega Saturn and PlayStation. Critics were largely negative in their reception of the game and the 7up mascot just didn't have the pulling power to bring in the sales in spite of the reviews. But this was 1995, and the days of that Eighties 'cool' was already fading and with it the concept of mascots. As it happens *Cool Spot*'s days were numbered anyway, by 1997 *Cool Spot* was shelved by 7up, with the company having decided that it had no more need for a character to sell its drinks. With only a handful of games attached to his name – and only one of those of any worthwhile quality – and so without him anymore there was simply no more need for games about a walking red dot in sunglasses. *

» [NES] Though it was little more than a board game, the very first *Cool Spot* game at least required some strategy to win.

THE UNCONVERTED

Arcade games that never made it home

THE MAZE OF THE KINGS

DEVELOPER: **HITMAKER/CRAZY GAMES** YEAR: **2002** GENRE: **LIGHTGUN**

■ **It feels like Ancient Egyptian themes aren't really used enough in videogames – we've seen enough Romero-style lumbering zombies to last a lifetime and *Castlevania*'s got the vampire scene sewn up pretty well, but we don't often find ourselves in a life or death confrontation with a mummy.** Fear not though, as *The Maze Of The Kings* casts you as an archaeological treasure hunter exploring the pyramids. Along the way you'll be attacked by skeletal guards, crawling critters and of course a variety of bosses.

The game's concept came from Shinya Nishigaki of Crazy Games, who wanted to make an arcade horror game after finishing the Dreamcast horror games *Illbleed* and *Blue Stinger*. Hitmaker staff including *The Lost World: Jurassic Park* director Shinichi Ogasawara assisted in order to ensure that the game would work well in the arcade environment.

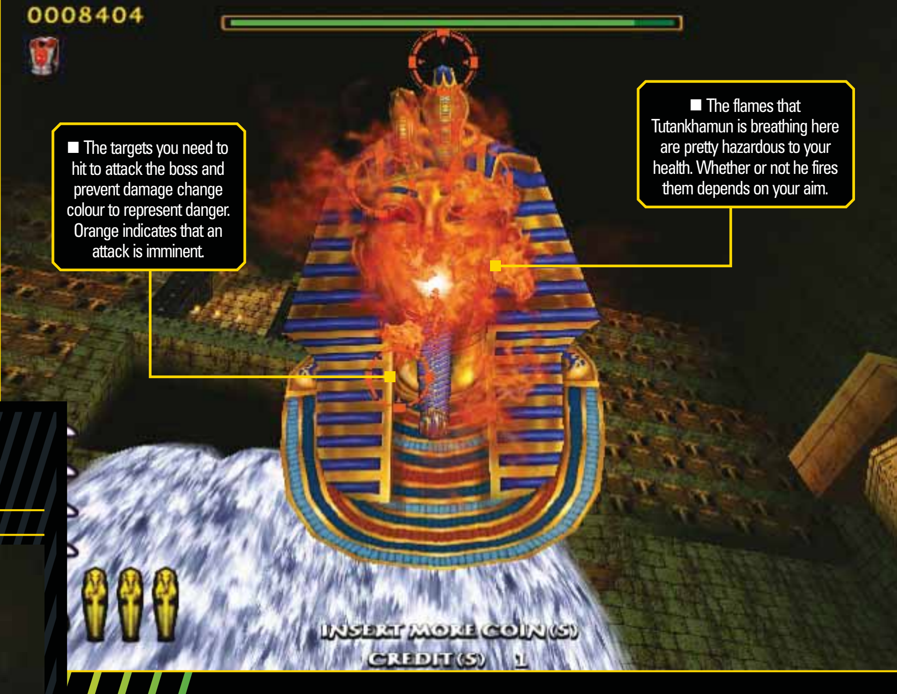
Each game begins with the player selecting a weapon, with higher power weapons needing more frequent reloading, and a special item. You'll then be subjected to relentless attacks from skeletal guards, creepy crawlies and mythical animals, which you have to shoot to survive. However, scoring points relies on gathering treasure – and for that you'll need to shoot pots and other containers. If you shoot larger treasure targets before they disappear, they'll bounce and their point values will be bumped up, but of course you run the risk of being attacked while doing so. What's particularly exciting about *The Maze Of The Kings* is that your route is randomised – each time you play you'll be sent to different rooms, which increases the replay value of the game considerably.

It's not hard to see why *The Maze Of The Kings* never came to Dreamcast – 2002 was a bit late to be considering that, even if a NAOMI port would have been fairly simple. However, we're not sure why it never came to PlayStation 2 or Xbox, as Sega published lightgun games for both machines and it was certainly no worse a candidate for conversion than *The House Of The Dead III*. Still, that just means it's well worth sticking some credits in if you see a cabinet in the wild.



■ Enemies in this game aren't too subtle – they'll run right up to you and try to stab or bite you. It's their speed and numbers that pose more of a threat.

■ These pots in the background are full of point-scoring items. They're the only way you'll boost your score, so smash them whenever you get the chance.



■ The targets you need to hit to attack the boss and prevent damage change colour to represent danger. Orange indicates that an attack is imminent.

■ The flames that Tutankhamun is breathing here are pretty hazardous to your health. Whether or not he fires them depends on your aim.

CONVERTED ALTERNATIVE

VAMPIRE NIGHT

2001

■ This collaboration between WOW Entertainment and Namco offers another alternative supernatural shooting theme for those of you that are sick of zombies. It's a pretty good game, albeit a tough one. You can pick it up for the PS2 – just make sure you've got a G-Con 2 to accompany it.



EVOLUTION SOCCER

DEVELOPER: **EVOGA/BREZZASOFT** YEAR: **2001** GENRE: **SPORTS**

■ **No, you're not reading the year wrong – this is an old-style arcade football game in 2D from 2001.** The Brezzasoft Crystal System was intended to be a replacement for the Neo-Geo MVS, which was still hugely popular in the South American market due to its low cost, and a half decent football game was thus important to its success. The game was codeveloped by Mexican firm Evoga and short-lived SNK successor Brezzasoft, but curiously didn't include any of the development staff responsible for the rather excellent *Super Sidekicks* series of football games.

Evolution Soccer plays much like the *Super Sidekicks* games – it's fast-paced and light on fouls. The game's main design wrinkle is that it features a super bar, much like fighting games. You can choose a team captain at the beginning of the game, and he'll have his special moves listed – again, with fighting game-style inputs. Get it right and you'll unleash a massively powerful shot that almost guarantees a goal.

Evolution Soccer isn't a bad game, but it's easy to see why it never came home. It was just created to cater to a very specific market, and never meant for home console owners.



» [Arcade] The English captain tries a daring run into the box, but he's got no specials charged – the fool!

CONVERTED ALTERNATIVE

VIRTUA STRIKER 2 VER 2000

1999

■ It might have existed right at the other end of the technological spectrum, but Sega's footy sequel was in arcades at the same time as *Evolution Soccer*. It doesn't have special moves, but it does have a rainbow effect in replays. You can get it for your Dreamcast.



CONVERTED ALTERNATIVE

METAL SLUG X

1999

■ It's *Metal Slug 2*, but fixed and remixed – the slowdown that blighted the original release is gone, and there's fun new stuff to discover. It's on Neo-Geo and PlayStation, and on *Metal Slug Anthology* for PS2, PSP and Wii, or you can get digital versions for the many modern platforms around today.

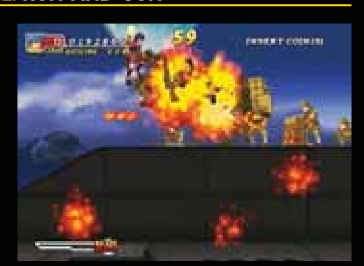


DOLPHIN BLUE

DEVELOPER: **SAMMY** YEAR: **2003** GENRE: **RUN-AND-GUN**

■ **Sometimes, the safest path to profit is to just look at what is already successful and imitate it – and it's not hard to imagine that Sammy did just that with Dolphin Blue, which clearly draws its inspiration from *Metal Slug*.** The game design is very similar, from the way your character automatically switches to a knife for close-up enemies to the variety of power-ups on offer. The main differences are that power-ups are gained from barrels, instead of rescued prisoners, and you have a rechargeable special move instead of a limited supply of grenades.

Given the game's aquatic theme, there are a lot of sections in which you either swim underwater or ride a dolphin. Level themes are designed around this too, with the second stage recreating the *R-Type* giant battleship fight with a massive submarine. That's ultimately the biggest strike against *Dolphin Blue* – it has relatively few ideas of its own. It never quite hits the same heights as the games that inspired it, particularly when it comes to boss design. It also has some pretty major slowdown problems. Still, fans of the genre will find it fun, once they're done with the classics.



» [Arcade] Here, a charged special attack has caused our hero to leap into the air and rain death upon his foes.

BEST LEFT IN THE ARCADE

THE NEXT SPACE

DEVELOPER: **SNK** YEAR: **1989** GENRE: **SHOOT-'EM-UP**

■ **Sometimes, you come across a game that would have been perfectly acceptable in years gone by that is just no longer up to scratch, and that's the major problem with *The Next Space*.** In the early Eighties, it was fine to have a shoot-'em-up where all the stages had the same star field background, with tiny enemies leading up to a boss fight. By 1989, the genre had moved on considerably.

The defining characteristic of *The Next Space* is its large selection of nine sub-weapons, ranging from a large delayed detonation bomb to homing shots, which can be acquired by picking up alphabetical icons. You can shoot these icons to change the letter, meaning that every power-up is essentially universal – yet for some reason, the game still blankets the screen with them, which just serves to shield enemies from incoming shots.

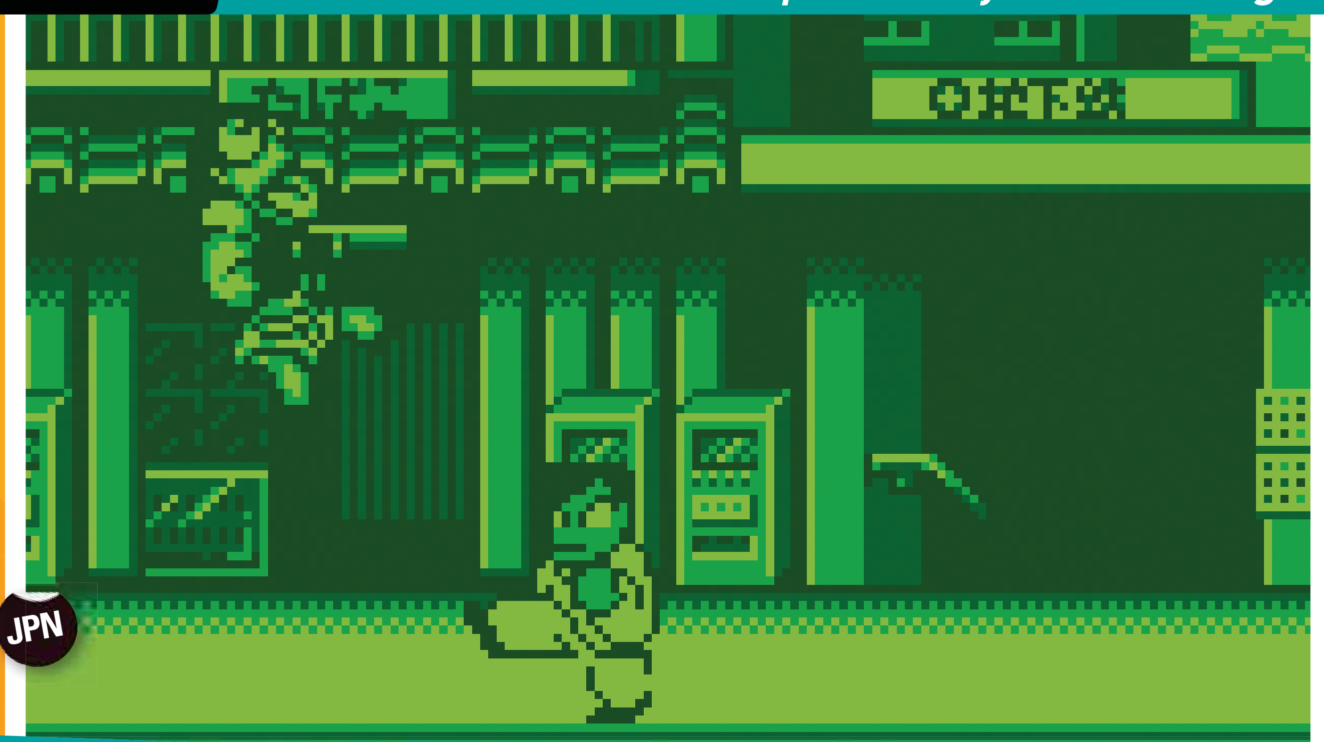
There's nothing that *The Next Space* does which wasn't already being done better in arcades years earlier, and frankly even on consoles – *Gunhed* on the PC Engine makes this look frankly silly. Unless this was produced for people who felt that the shooting genre had become too complex, we can't see who it was trying to appeal to.





LOST IN TRANSLATION

How the rest of the world experienced your favourite games



NEKKETSU KOUHA KUNIO-KUN: BANGAI RANTOU-HEN

JPN ➔ ROW
Japan ➔ ROW

Departing: 1990

FORMAT
Game Boy

DEVELOPER
Technos

YEAR
1990

ORIGIN
Japan

LOCALISED FOR
Rest Of World

REASONS
Commercial



ECONOMY

■ It's well known that the *Kunio-Kun* series was the basis for the game we all know as *Renegade*. However, Technos' high school brawler has also been given a makeover into another popular scrolling beat-'em-up – Technos' own *Double Dragon*.

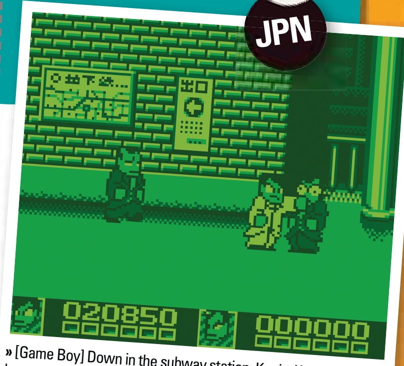
The story here starts with *Nekketsu Kouha Kunio-Kun: Bangai Rantou-Hen*, a Japanese beat-'em-up for the Game Boy that uses the same characters and setting as the previous *Kunio-Kun* games. You start outside Nekketsu High School and beat up cartoonish thugs before heading to the subway entrance, where you face a dangerous boxer before you can move underground. It's a pretty simple beat-'em-up – unlike *River City Ransom* it's linear and there's no money or shopping. However, it's still a bit of fun.

Acclaim picked up *Kunio-Kun* for international release, but decided that it'd rather not bother with the established characters and settings. Instead, it had the game retooled so it could be sold as *Double Dragon II*. Kunio-Kun was replaced with Billy Lee, the high school was replaced with a shopping district, and the subway station was replaced with a redrawn American-style station. The enemies all got makeovers to look more realistic, and even the music has been replaced.

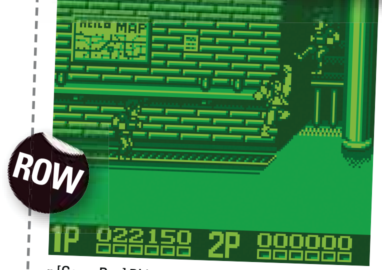
It's not hard to work out exactly why Acclaim chose to have the game reworked as a *Double Dragon*. *Kunio-Kun* had no real history outside of Japan, and *River City Ransom* was only ever a cult hit at best. *Double Dragon* was a smash hit arcade game and a strong seller across all formats. However, there were some oddities that arose as a result of this thematic change.

Most notably, *Double Dragon II* for the Game Boy is unlike its predecessor and successor in that it bears almost no resemblance to the arcade game it's named after. The goal of avenging Marian's death is replaced with a plot about clearing Billy Lee's name after he's framed for a crime. The odd directional attack buttons are not replicated and there are no weapons to pick up. Another staple mechanic that is nowhere to be found is the jump kick, which means there are no small platforming sections to be found in this game.

Double Dragon II isn't a bad Game Boy beat-'em-up, however it's definitely a better *Kunio-Kun* game than a *Double Dragon* game.



» [Game Boy] Down in the subway station, Kunio-Kun beats up a generic grunt.



» [Game Boy] Did the bricks really need redrawing for *Double Dragon II*? The devs seem to have thought so.



CAPCOM VS SNK: MILLENNIUM FIGHT 2000

JPN ➜ ROW
Japan ➜ ROW

CAPCOM VS SNK: MILLENNIUM FIGHT 2000 Departing: 2000

FORMAT
Dreamcast

DEVELOPER
Capcom

YEAR
2000

ORIGIN
Japan

LOCALISED FOR
Rest Of World

REASONS
Language



■ It's rare for a fighting game to be edited solely on the basis of linguistic quibbles, but Capcom's first crossover with SNK suffers no less than four cuts outside of Japan because of specific words. The first cut is easy to explain – the *Final Fight* stage had the vocals cut from its music, because at one point the rapper can clearly be heard declaring that he's "ready to fucking spill." Face-punching is fine, but profanity sure isn't.

The next two concern voice clips for special moves. Sagat has a super move called Tiger Genocide, and Rugal keeps his Genocide Cutter from the *King Of Fighters* series. However, Capcom wasn't keen on using the word genocide outside of Japan, so it renamed the moves Tiger Destroyer and Destroyer Cutter, and replaced their respective voice clips with generic grunts.

Lastly, in the Japanese version, the announcer says the character's name as you pick them – a feature that was cut elsewhere. Why? We can only speculate that it's because he says "Mike Bison" when you select the boxer, thus ruling out a simple clip swap with Balrog and Vega to achieve the western naming convention.



» [Dreamcast] It's not often that anyone expands on what that M stands for, presumably because of these localisation problems.



» [Dreamcast] This isn't the Japanese version, so please call this move the Destroyer Cutter.

ECONOMY

BAKURETSU MUTEKI BANGAI-O

JPN ➜ USA
Japan ➜ USA

FORMAT
Dreamcast

DEVELOPER
Treasure

YEAR
1999

ORIGIN
Japan

LOCALISED FOR
USA

REASONS
Political



■ Treasure games are known for their bizarre sense of humour, and no game exemplifies that better than *Bangai-O*. This oddball multidirectional shoot-'em-up was already pretty unusual in Japanese, and the European release by Swing! Entertainment rolled with it – the text was kept as close to the original as possible, and other than an odd drop in image brightness, things were generally left unchanged.

The American release was handled by Conspiracy Entertainment, and came out five months after the European game. As well as featuring a rewritten English translation, which attempted to make the game make a bit more sense, incorporating some of the plot points from the manual, the American game featured a brand-new Game Over screen.

You can probably guess the problem as soon as you see the original Japanese screen – that figure in the white hooded cloak. Despite the red 'DC' text on the hood, it is remarkably similar to the outfits worn by the American white supremacist group the Ku Klux Klan. This was of course wholly unsuitable for the market. Additionally, the decision was taken to cover up protagonist Riki, who is naked in other markets.



» [Dreamcast] And here's the image the US got, stripped of any potential association with right-wing extremists.

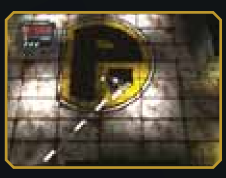
» [Dreamcast] Here's the continue screen that will be familiar to most of the world's players…

ECONOMY

THE MAKING OF LOADED

Loaded was a top-down shooter which aped the style of Gauntlet and smashed a champagne bottle of blood across the bow of PlayStation for the console's maiden journey. With a distinctive look, we find out if the game was more style than substance

Words by Daniel Lipscombe



IN THE KNOW

» **PUBLISHER:** INTERPLAY ENTERTAINMENT
» **DEVELOPER:** GREMLIN INTERACTIVE
» **RELEASED:** 1995
» **PLATFORM:** PLAYSTATION, SATURN
» **GENRE:** ACTION



» Greg Staples worked on *Loaded*'s gruesome art direction.

It would end up being a daunting prospect for Gremlin Entertainment. While the company had cut its teeth throughout the very early console years and the PC market, Sony came to the developer with a big prospect. Gremlin was working on a top-down shooter called *Loaded* which featured six lunatic characters taking on an even crazier antagonist in many maze-like levels. Sony called the office and told the Sheffield team that its game would not only be a launch title for the PlayStation, but a demo would be bundled with the console. This was a great chance for gamers to see Gremlin's game – everyone who bought the new system would have access to a *Loaded* demo and, for many, it would showcase the console.

The pressure initially wasn't insurmountable for the developer, as it had previously worked with CD-ROM media on PC and Amiga CD32 and had been producing games for Sega and Nintendo for years. "The pressure only ramped up when the deal was struck to have a demo bundled with the consoles and the game became a launch title. We suddenly had very real deadlines and the time remaining was short," says Mark Glossop who took on producing duties. "We had to work crunch over an extended period of time which was a portent of things to come in game development." When we ask Mark how the team felt dealing with this new task he admits they were ambivalent but, "The start of projects were difficult in those days." Mark reveals that he had concerns about the game, "I personally didn't really like the game, it wasn't my sort of thing. I thought the first level was too big and made even bigger by palavering around with coloured keys and locks."



» [PlayStation] Ambient lighting was key to *Loaded*'s visual appeal.

It doesn't come as much of a surprise that Mark wasn't keen on what the team were creating. A lot of players were swept away by this new technology and bold style, which masked an otherwise dull game. *Loaded* is a repetitive experience of crawling through dimly lit corridors, opening doors and diving into swarms of enemies and letting loose with whichever weapon was equipped. Early reviewers would laud the game for being explosive, gory and intense, ignoring the obvious design issues as the team had created something to entice consumers to the newcomer in the console wars.

Gremlin, not content with producing a *Gauntlet* facsimile, called in artist Greg Staples who was



» [PlayStation] Gore galore as Cap'n Hands blasts enemies left and right.

» [PlayStation] Ultra Missiles scatter randomly to take out any enemies.

working on *2000AD* titles to oversee art and *Loaded* became an off-the-wall gorefest whose visual style looked pulled straight from Mega-City One. "One of the artists, Les Spink, had asked me to do the box art for the game *Shadow Warrior*. Gremlin liked the artwork and asked if I wanted to work on this new game, which would have a *2000AD* vibe to it. I was working on *Judge Dredd* at the time, I said yes and they offered me a job in-house," Greg tells us. It's this style which captured players of the game. *Loaded* epitomised a feel that pervaded so much of popular culture in the mid-Nineties. Comic books, both British and American, were regaining popularity, action films were dominating the box office and media was generally exploring the lewder side of life.

Design for the game started with Adrian Carless. Best known for creating the character Zool, *Loaded* was a huge departure from his usual work. He laid out the idea for the game and began rough sketches of the lead character Fwank – a psychopath who hides his identity behind a warped clown mask – a design Greg calls "lightning in a bottle". Greg was brought in to touch up this design and create others which would give the game its signature look.

"Most of the characters just came to me," admits Greg, who has just returned from America after overseeing art direction on the upcoming 2019 *Hellboy* film. The characters were a huge component of *Loaded*, each bringing something unique with them in appearance and feel. Fwank was the big draw: the mid-to-late Nineties pop culture was obsessed with horror, and enabled Fwank's maniacal look to grace the cover of the game as he brandishes a oversized gun. Cap'n Hands on the other hand is a speedy cyborg pirate, wielding two flintlocks. Mamma, abandoned at six months old, uses his 300-pound body to treat humans as toys. Bouncer is memorable for a metal jaw, and Vox drew eyes at the time for being overly sexualised and violent.

Loaded was doing all it could to reinforce the idea that games could be for adults and the team was attempting to push boundaries, "I was in a meeting, I came up with Butch and people were shocked," says Greg. Butch is an ultra-masculine character who prefers to wear a dress and will kill anyone who questioned his decision to do so. Executives were concerned about the design, ▶

CONVERSION CAPERS



PLAYSTATION

■ The production of *Loaded* was designed specifically with PlayStation in mind and the game was well received by critics and players alike, featuring dynamic lighting, 15 levels, multiplayer action and a crunching soundtrack featuring alternative rock band Pop Will Eat Itself – if you put the CD-ROM into a CD player from track two, you could listen to the whole soundtrack.

SATURN

■ A year after the PlayStation version was released, Gremlin was asked to port the game over to the Sega Saturn, which took some time. Interplay producer Jamie Airey stated, "We were worried if the Saturn was even going to do well." The Saturn version is noted to have rougher graphics and less capability to zoom in on the action.





DEVELOPER HIGHLIGHTS

DESERT STRIKE
SYSTEM: MEGA DRIVE
YEAR: 1992

STRIKER
SYSTEM: AMIGA CD32
YEAR: 1992

ZOOL (PICTURED)
SYSTEM: VARIOUS
YEAR: 1992



» [PlayStation] The smoking guns of Cap'n Hands is a nice visual flourish.

▶ fearing that it was a step too far. "I was trying to be a bit rebellious" mentions Greg. "I was young and cocky, thinking, 'I want to do what sounds fun,' and I went wild on the characters. As I started to hand in designs I thought were cool, the style started to get a lot of notice from magazines." And it was those magazines taking notice that kept Butch in the game after a team of journalists visited Gremlin to play an early version of the game, thinking the character was a brilliant idea.

Every detail in the game was over the top, reflecting the bombastic world of comic books and film. It's clear the team wanted to create something that would be seen as edgy and loud– even nondescript wooden tables would explode when shot at. *Loaded* was about fun and Greg reflects on the time fondly, "*Loaded* was my most fun experience, we had a small team and we'd go into a meeting and throw ideas around." The team was close, Adrian Carless moved in with Greg Staples during the project and the two worked closely together.

However, it took a while for work on *Loaded* to get going, "The first five levels were created on graph paper by me. We had great assets and lighting and ideas, but no actual levels. We knew what we wanted. A lot of focus went into how the game would work because it was for the PlayStation and hadn't been done before," says Greg. He also admits that they were flying blind for a large chunk of development. Perhaps this is why the innovation of the game was more stylistic, instead of breaking ground in how games could be played.

Beneath the gritty visuals was a game that many had seen before, a directional shooter, which lacked depth. Players can move in eight directions, via the PlayStation's d-pad, and either shoot enemies with their primary weapon, or use a bomb-style special ability. Looking back on the game now, we can see the main draw came from the wild cast as the 15 levels included featured little variation. Each level required the player to seek out a coloured key in order to open a corresponding door while clearing every floor of enemies, leaving only puddles of blood – which was changed to green for the American audience.

One of the ideas bandied about ended up giving *Loaded* its more unique spin. The conceit of scoring points through kills and exploration was increased by looting corpses, utilising the shoulder buttons to zoom in and out of the carnage – again,

> **"Sony was the first company to introduce what I would consider as 'proper' QA"**
> Mark Glossop

showcasing the new technology on offer. When the levels ended your performance was rated, not using the standard letter grading, but by using slogans – 'Social Worker' denoted a poor performance, whereas 'Genocidal Maniac' was awarded for being just that.

Loaded was a simple shooter otherwise, the game could have been created at any point in time from a mechanical perspective, but this was effectively being packaged as a demonstration for what the new Sony console could achieve. And rightly so, the line was being redrawn in the industry. Sony wanted developers to take advantage of the power within its unassuming grey box and Gremlin certainly did just that. Lighting was a revolution in this new era because of the 3D environments, as was full-motion video: each level started with a gratuitous video briefing you on the upcoming mission, and *Loaded*, away from the typical run-and-gun designs, managed to set up an atmospheric environment by utilising this new power. Greg remembers, "I was talking to Ash [Bennett]. He showed me these cool lighting effects on the PlayStation, I wanted them in *Loaded* to stand out from the crowd."

What Greg is referring to is the ambient lighting that was now possible and which gave levels a cinematic quality. Whereas in older games, the light was dictated by pixels and variation in colour, the 3D engine gave the team an ability to move lights around the levels as if on a film set. By doing so, they could create dark pockets within levels. "Ash took some persuading as it hadn't been done before. It was quite experimental," laughs Greg. The lighting created a blooming effect across the textures helping to amplify the creepy visuals. It was soon added to the muzzle flare of the guns, emergency lights throughout levels and even the ammunition boxes, a feature Mark Glossop enjoyed. "I liked the technical aspects which I had never really seen before such as moving light sources attached to ammunition." Mark remembers that Gremlin's work with Sony was a bit of a revelation and certainly showed the changing tide in game production, "Sony was the first company to introduce what I would consider as 'proper' QA. It came as quite a shock as the game failed several submissions which led to very many late nights."

***Loaded* eventually made it through QA and sold over 250,000 copies, almost half of those in the UK.** With more relaxed certification, the game appealed to so many players. Adults had a game that represented the shift within the industry and brought a more mature experience to consoles, which had been relatively exclusive to PC at the time. And kids, well, they revelled in the blood and explosions. Mark remembers the team never really gave the violence much thought, "The gore happened organically, one of the artists drew a blood splat which looked really good and the SFX guy added a splat sound and that was it."

Loaded brought slasher B movie vibes to a videogame form and unbeknownst to Gremlin, paved the way for future developers to explore more adult themes in the console market. Sure, we have seen *Splatterhouse*, *Mortal Kombat* and *Primal Rage* soak the 16-bit era in blood, but with the PlayStation and Saturn we got a much more realistic depiction of violence. The levels and combat were limited, but the puddles of blood and comic book characters were the start of a new generation of games. ★

RE-LOADED

How Gremlin stumbled in making Loaded's sequel

For *Re-Loaded*, most of the original team had moved onto other projects and Gremlin was required to bring in new staff, which included a new art director and producer. Because of this, the style changed, albeit only slightly: the game itself kept the core design of the original, only introducing new characters and weapons. Vox was dropped from the original line-up of characters, making way for two new female characters – Sister Maggie, an Android Nun; and The Consumer, a strange cannibalistic sex symbol.

Re-Loaded didn't create the same impact as the first game, as much of the impressive technology and features that launched the PlayStation were now commonplace. The addition of more puzzle scenarios made the game "too slow and plodding" according to *GamePro*. It was 1996 and at this point *Loaded* was seen as a technically great game but one that suffered from a bad repetition. Hindsight wasn't kind to the launch title and *Re-Loaded* didn't change enough to stand up alongside the likes of *Tomb Raider*, *Resident Evil* and *Blood Omen: Legacy Of Kain*.

The game was a critical disaster, IGN declared, "Almost every great aspect of the original game has been compromised," and Jeff Gerstmann wrote on Gamespot, "The entire *Loaded* series is a horrible version of the Atari classic, *Gauntlet*," which was echoed by Crispin Boyer for *EGM* with "*Re-Loaded* is just another mindless action game that hurts your hands and has you jonesing to play good ol' *Gauntlet*."


» [PlayStation] Unleashing hell in a padded cell.


» [PlayStation] Gunfire is over-the-top and explosive, as shown here by the huge muzzle flash.



Super Nintendo Fact

■ A redesign of the SNES, most commonly known as the SNES Jr, was released in Japan and America, but not in Europe.

PROCESSOR: CUSTOM 65C816 AT 3.58 MHZ
RAM: 128 KB
GRAPHICS: 16-BIT PPU WITH MAXIMUM 512X448 RESOLUTION, 128 SPRITES PER SCREEN, UP TO 256 COLOURS PER LINE (FROM PALETTE OF 32,768)
MEDIA: ROM CARTRIDGE (UP TO 128 MBIT)
AUDIO: EIGHT-CHANNEL ADPCM

Super Nintendo

» **MANUFACTURER:** Nintendo » **YEAR:** 1990 » **COST:** £150 (launch) £50+ (today)

When Lance Barr redesigned the Super Famicom for the American market he was adamant that he could improve on Masayuki Uemura's original design. "The Super Famicom was maybe okay for the market in Japan, but for the US, I felt that it was too soft and had no edge," he told Nintendojo in 2005. "We were always looking at future modular components, so you had to design with the idea of stacking on top of other components. I thought the Super Famicom didn't look good when stacked, and even by itself it had a kind of 'bag of bread' look".

Lance clearly didn't like bread, or nice colour designs for that matter and his US take on Nintendo's 16-bit console is best described as 'divisive'. Far more angular than its Japanese counterpart, it sports large purple buttons, which are replicated on the console's pad (making it look like someone has stuck Parma Violets to the joypad). Regardless of what Lance's console looks like, there's no denying the incredible system it houses and it made no difference to Americans, as it went on to outsell the Mega Drive in the region (as it did elsewhere in the world).

Regardless of which version of the Super Nintendo you own, it's a highlight of the 16-bit era, with dozens upon dozens of essential games in its library. Little wonder, then, that readers recently voted it the greatest games machine of all time.



EDITOR'S CHOICE Super Mario World

Few videogames can be described as perfect, but *Super Mario World* certainly comes close to being the most perfect of videogames. It takes all the elements of the earlier NES games and builds on them magnificently by offering clever game mechanics to discover and abuse, all sorts of secrets to uncover, countless levels to master and an array of challenging bosses to defeat. It's arguably the best 2D platformer of its era and it remains the best 2D example of the genre to this day. The fact that readers voted it the best game of all time in our 150th issue tells you all you need to know about its greatness.

THE ULTIMATE GUIDE TO



It sounds like a James Bond movie, plays like a spy caper and will remind you of one or two other arcade games. So hardly original – but is it any good? Retro Gamer grabs its snorkel and dives in…

Words by Graeme Mason

It comes to something when merely a game's title manages to be derivative of not just one but several other influences. *ThunderJaws*, released by Atari Games in 1990, takes the larger-than-life world of *James Bond*, and mixes in the gameplay of Namco's *Rolling Thunder* with a multitude of deadly underwater wildlife, notably piranhas and sharks. We'll let you work out for yourselves which movie is involved in the title with that latter aquatic predator.

Naturally, *ThunderJaws*' plot follows the spy premise, while shamelessly encompassing a typically Eighties twist. With a diabolical plan lifted straight from *Bond* movie, *The Spy Who Loved Me*, the villain of the game is the mysterious Madam Q, a beautiful yet utterly bonkers woman who intends to destroy the surface of the planet, leaving her and her minions to reside peacefully under the sea in an underwater city utopia. Why she needs the population above eliminated to do this is an unanswered question, but since when did evil villains have to worry about the finer details? With a legion of genetically modified warriors to guard her and her world, it's up to one or two members of the underwater Special Forces unit to infiltrate several nautical bases and take down Madam Q before she ends the world as we know it.

ThunderJaws' concept was created jointly by arcade veteran Rusty Dawe (*Toobin'*, *Paperboy*, *Vindicators*) and Natalie Burgess, whose husband, Andrew Burgess, also worked in the Atari arcade games division, Atari Games Corporation. Taking its cue from the aforementioned blend of influences, the developers infused *ThunderJaws* with a mildly distasteful plot involving an army of bionic soldiers and brainwashed women, ready to be violently eliminated by the pair of underwater agents/surfer dude types. But then this was Atari of the late Eighties and early Nineties; *NARC* and latterly *Smash TV* were setting the template of how far it could push the boundaries in the arcades. And here it is firmly

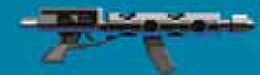


PRISONER
LIZARD LADY
LAVA LORD
SHARKS
EXPLODING SHARK
TOXIC WASTE
UNDERWATER PUNKER
PIRANHAS

SUBMARINE

The Weapons of ThunderJaws

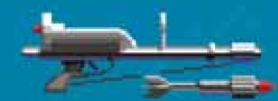
SPEARGUN
■ The quick-firing default weapon, the speargun has unlimited ammo.



UZI
■ This rapid-firing gun is useful for clearing out those masses of enemies.



SUPER-SEEKER
■ A neat heatseeking gun that despatches bad guys above and below the player.



EXPLOSIVE BOLT
■ Essentially a rocket launcher, this is able to eliminate armoured enemies quickly.



FLAME THROWER
■ As the name suggests, projects forth a narrow but deadly burst of flame.



TRI SHOT
■ Given the multilevel platforms, you should make a beeline for this pick-up.

DEADLY PLANT

▶ shoved, with sharks and human enemies regularly exploding in plumes of crimson and viscera as the agents progress through the game. Worse still, an early levels sees the player bear witness to a kidnapped innocent woman, imprisoned within a water-filled tank which swiftly converts her into some kind of lizard creature. As they must be killed in order to progress in later levels, the presence of these unfortunate 'enemies' is a little perplexing at the very least.

But by then, the player could well have given up on *ThunderJaws*, because despite the game's initial smooth gameplay and resulting excitement, cheap deaths and stuttery, arthritic lead characters soon severely hamper the game's appeal. Each level features two distinct segments: an underwater section (generally the best part of each level) and then another on dry land, inside one of Madam Q's secret locations. As with *Rolling Thunder*, enemies attack the player from each side, as well as above, and the plentiful platforms can also be leaped onto by pushing up and fire. These opponents vary from frogmen and genetically engineered robo men and dogs, to the brainwashed and mutated Bat Babes, Flame Dancers and Lizard Ladies. Each has a particular attack pattern which the player must learn to counter if they are to survive for long, and to assist them are health pick-ups sporadically placed around each level, and a range of weapon upgrades. While these are undoubtedly useful, and occasionally also dropped by enemies, they sadly have a strictly limited amount of ammunition. Given the incessant charge of *ThunderJaws*' villains, even the most parsimonious of players will find soon themselves with the default speargun weapon back in their hands.

Yet despite the rampant death and slaughter of virtual innocents, *ThunderJaws* carries a lighthearted tone, especially in terms of its lead characters. Sporting Californian surfer hairstyles, they stroll casually through the levels, uttering bizarre pop culture references of the time and slapping high-fives as the mayhem continues, and this is also reflected in many of Madam Q's minions. Fire creatures (Flame Dancers) sometimes split into two, cackling with glee, to avoid the player's shots; a bizarre giant ape, half-buried in rock, as if the developers couldn't be bothered to finish the rest of its body, confronts the player in a later level, as does a shark-shaped submarine, belching out real live sharks. And if that's not enough eccentricity for you, the game's weapons can be utilised on both land and underwater, which in the case of the flamethrower, lends *ThunderJaws* another slightly-ludicrous angle. Finally, having battled through several levels, sporadically taunted by the alluring Madam Q herself via massive overhead view screens, the player faces off against the villainess. Inevitably



» [Arcade] The pair of agents make their way through the first level.



» [Arcade] Setting a villain on fire in the caves.

SPIKES

Conversion Capers

COMMODORE 64
■ As Jolyon Myers candidly admits, this port is a bit of a mess visually thanks to his relative inexperience on the computer. It doesn't play particularly well, either, and the short levels really don't make the game conducive to its annoying multiload.

AMIGA
■ While it looks pretty enough, and features some aptly crunchy sound effects, the Amiga port is slow and uninspiring to play, as realistic as the measured underwater movement is. Things improve slightly on land, but it's still something of a missed opportunity.



ZX SPECTRUM
■ Ah, the curious case of Spectrum *ThunderJaws*. By all accounts a decent conversion, the game was given 90% in issue 91 of *Crash*, and a demo featured on the cover of the same issue. Yet strangely the game itself is MIA, and it's unclear whether it was even released back in the day.

ATARI ST
■ Like the Amiga, this version includes a new player selection screen featuring the two main characters and their nemesis, Madam Q. Again, you'd hardly call this a fast-paced conversion, although the more considered approach to the gameplay may be preferred by some.





AMSTRAD CPC
■ In the absence of a full Spectrum version, this is the best of the 8-bit ports, trumping the C64. Nice graphics complement *ThunderJaws*' decent game design, although its adherence to the original drops as you progress through the levels.



» [Arcade] The svelte Madam Q transforms into this gross, globular mass for the final showdown.

this also descends into preposterousness as she transforms into a globular mass, complete with tentacles and jagged teeth. Destroy this monstrosity and our heroes are toe-curlingly fawned over by another selection of innocent females (unmutated, obviously), the multitude of those killed by the player conveniently forgotten.

As part of its arrangement with Domark, *ThunderJaws* was converted to home computers, specifically the ZX Spectrum, Amstrad, Commodore 64, Amiga and Atari ST, with varying degrees of success. Having had a patchy record in the past with arcade conversions, Domark succeeded in bringing home the spirit of the original, especially on the Amstrad CPC and Commodore Amiga. Unfortunately, with *ThunderJaws* not being a good game to start with, these conversions had a preset shortcoming.

Despite its curiosity value today, it's hard not to think of *ThunderJaws* as a missed opportunity to take the exciting platform action of *Rolling Thunder*, combine it with the underwater levels that, for the most part, the game gets right, to make an exciting action game. The lack of much variation in each stage, the unfair difficulty and peculiar, non-PC backdrop do the game no favours; some of these faults could be forgiven if *ThunderJaws* was fun to play. Alas it fails here as well thanks to a lack of polish and playtesting in all of its land-based levels. The game's popularity is reflected on high-score site Twin Galaxies where a mere two undisputed scores exist, Ryan Sullivan with 26,894 points and Carsten Hirche with 58,545. So if you fancy a stab at high score immortality, *ThunderJaws* could be the one for you. And let's be honest, how many other games let you use a flamethrower underwater? ★

BLUE AGENT

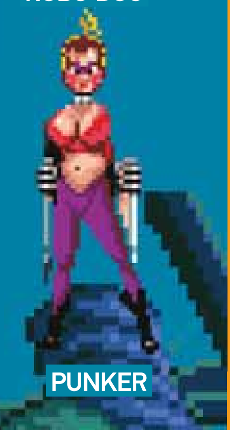




ROBO GUARD



ROBO DOG



PUNKER



Porting ThunderJaws

We speak to Jolyon Myers, part of the team behind Domark's home conversions

What were your first thoughts on the original arcade game?
It immediately reminded me of *Rolling Thunder*, which I remember liking very much. I love the visuals and atmosphere of an underwater environment, especially shipwrecks, so was drawn to that. Some of my later work, including *Agent Armstrong* on the PlayStation was definitely inspired by *ThunderJaws*, even if I didn't realise it at the time. I loved the animation for the underwater explosion sprites.

You worked for Domark's in-house developer, Kremlin?
I got an interview at Domark after going to one of the big computer shows, and started work at their Kremlin office in Addlestone, Surrey. Although hired as an artist, one of the first things I did was write the music for *Mig 29* on the Commodore Amiga!

Did you have a *ThunderJaws* arcade machine?
Yes, we had the machine in the office and they already had a collection of arcade games that they'd done conversions for. *Hard Drivin'*, *Star Wars* and a few others, and I could play them for free. I could use the debug menus to hear all the individual sounds, and we were also given the raw graphics, although we generally only used them for reference rather than for conversion.

What was it like converting the game's colourful graphics to 8-bit systems?
I hadn't done graphics professionally on the 8-bits, and this was at the very end of their lives. Up until that point I'd done most of my professional work on the BBC Micro, and since then moved on to the Amiga. It was strange using the Amiga to do graphics that were far less powerful, and I have to say it was much quicker to create Spectrum and Amstrad art in Deluxe paint on the Amiga. I think I did most of the C64 art on the C64, but found that a struggle as I hadn't really worked on it in the past.

How did you think you did overall with the conversion work?
I think we did a reasonable job within the constraints. I remember a *Crash* review and others overly complementing the art, but the C64 was a pretty rough job. I can blame some of that on having to go backward and only being able to use tools on the C64, but I should have persevered and done a better job regardless! I should have spent more time analysing the techniques of other games and finding the best way to do the best job.

How did you come to do the Amiga music?
I simply asked, as I'd already written many Amiga demos. At that point in my career I would write music for any project I worked on, and continued to do so throughout my PlayStation games.



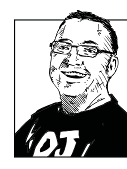
CRATE



MADAM Q

Out Run

THE DAY THE LAUGHTER DIED



» AMSTRAD CPC » US GOLD » 1987

Few games have disappointed me as much as the Amstrad conversion of *Out Run*. It's well regarded as being a pretty poor arcade conversion, but you really do need to play it in order to realise what an atrocity it actually is.

I fell hard for *Out Run* when I first discovered it at my local arcade, Quay Amusements, really hard. The graphics, the music, the fact you were racing against the clock rather than other competitors – everything about it felt fresh and exciting and I would read *Amstrad Action* every month in the hope that it would receive an eventual home conversion.

When the news finally arrived that my favourite arcade racer was heading to my favourite home computer I started saving my paper round money so that I would be able to finally buy the game when it came out. I spent my spare cash on the arcade game in order to get as much practice in as possible and I hungrily ate up the huge two-page adverts that seemed to be in every gaming magazine I was reading at the time.

Normally, I would wait for a game to be reviewed in *Amstrad Action* before I actually purchased it. *Amstrad Action* was my bible, you see, and it had never steered me wrong in the past, but there was no review of *Out Run* in the October issue of *Amstrad Action*, or the November or December issues for that matter. A cynical version of me would have taken this as a warning sign, but the 14-year-old version of me wasn't cynical, he was just an impatient idiot.

As it turned out I received *Out Run* on Christmas Day and it's arguably the worst Christmas present I've ever received. While the loading screen looked nice everything else about US Gold's game was a travesty. It sounded awful, the scrolling was abysmal and the constant loading times made me want to scream. I learned a harsh lesson that day. Needless to say, when that *Amstrad Action* review came out (a good while after the actual game) I agreed wholeheartedly with the 37% score. The only saving grace was that I had at least saved myself £9.99. *



THE MAKING OF

QUA



» [PC] The opening scene in *Quake II* depicts the crash-landed capsule of the game's hero.

IN THE KNOW

» **PUBLISHER:** ACTIVISION
» **DEVELOPER:** ID SOFTWARE
» **RELEASED:** 1997
» **PLATFORM:** PC, VARIOUS
» **GENRE:** FIRST-PERSON SHOOTER

» Tim Willits started as a level designer at id Software and is now studio director.

Few western developers had higher profiles during the Nineties than id Software cofounder John Romero, and fewer still had a rockstar image to go with their fame. But after helping id to make the FPS mainstream with instant classics such as *Wolfenstein 3D*, *Doom* and *Quake*, John parted ways with the small firm, and its remaining developers made the decision to take their next project in a new direction, as *Quake II* level designer Tim Willits remembers. "Romero was let go, and we took a different approach to the next *Quake* game," he tells us. "Kevin Cloud stepped up to lead the project and refocus us on something that was more story-based and set in a different universe. Kevin had this great idea where he said: '*Guns Of Navarone*.' That was the inspiration for *Quake II*, and it made sense because in the movie the Allies had to knock out the big guns that the Germans had before they could assault. So in *Quake II*, your job would be to knock out the big guns before the big dropships could come in. That's why you were by yourself, because the human forces had sent individual pods out since everything else was too big and would get hit by the big guns."



K E II

Following John Romero's departure, id Software decided that the follow-up to its all-conquering FPS Quake should be mission-based and story-led. Tim Willits explains how this fresh new concept became Quake II

Words by Rory Milne

Of course, since id's latest project was taking its lead from the *Guns Of Navarone* it would need an army as dark as the movie's Nazi antagonists, which *Quake II* artist Kevin Cloud delivered in the form of a race of macabre aliens called the Strogg. "With the Strogg, Kevin wanted to create an enemy force that was unified but terrifying," Tim explains. "So the Strogg were part-alien, part-vampire; they weren't *like* vampires, but they *were* vampiric. Like the Borg [in *Star Trek*], their plan was that they would take over planets, and then use body parts – living tissue and organs – in reconstructing themselves and keeping themselves alive. Because they attacked different planets with different creatures, each Strogg was different, but the Strogg were also very unified because they were all part of a Strogg collective."

But as horrific as Kevin's vision for the Strogg was, the nightmarish aliens' sci-fi backstory was clearly at odds with the Gothic horror narrative of id's previous *Quake* title, which as Tim points out makes sense since *Quake*'s follow-up almost became a standalone project that would likely have kickstarted an entirely new id franchise. "We wanted to do something different with the next game, and we did consider *not* calling it *Quake II*," Tim muses. "One of the names Paul Steed came up with, which I always really liked, was '*Wor*,' but it was hard coming up with a name that *everyone* liked, so we just stuck a 'II' on the end of *Quake*. But it did hold true to that *Quake* DNA, where it was hardcore: there were big beefy weapons, there was over-the-top action and you were the hero saving the world."



» [PC] *Quake II*'s initial weapon is fairly ineffective, but heavier duty artillery is scattered throughout the game.

But while id strived to instil *Quake II* with the key tenants of *Quake*'s core gameplay, rather than reworking the sequel as a dark fantasy it decided to retain the project's decidedly sci-fi-themed narrative. "We were a bunch of sci-fi nuts!" Tim reasons. "And it was refreshing for us to do something new but kind of familiar. With a sci-fi universe there was the opportunity to have super-cool weapons and we could have new types of creatures, so it really gave a nice palette to create a wonderful game."

As well as favouring an alternate genre, *Quake II* would also differ from its predecessor by having a cohesive backstory, which instructed and informed the design of the project's full-motion video introduction and the look and animation of its biomechanical alien opponents. "*Quake* was



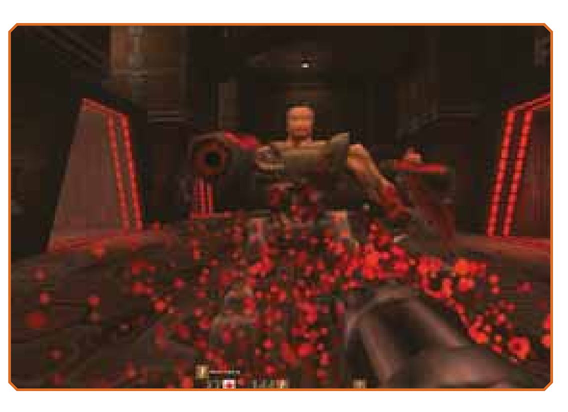
DEVELOPER HIGHLIGHTS

QUAKE II
SYSTEM: PC, VARIOUS
YEAR: 1997

QUAKE III ARENA (PICTURED)
SYSTEM: PC, VARIOUS
YEAR: 1999

DOOM
SYSTEM: VARIOUS
YEAR: 2016



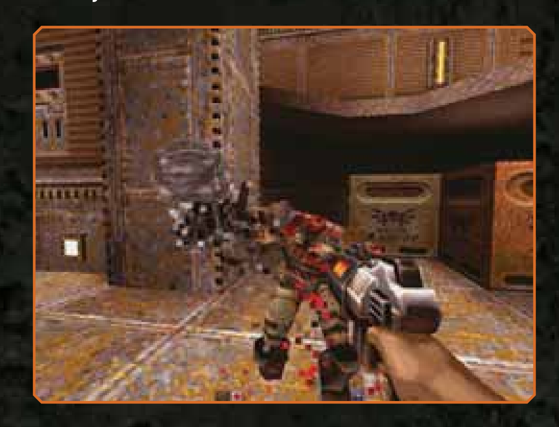


CONVERSION CAPERS

How Quake II compares on other systems

MAC ▸

■ 3D graphics cards for Macs didn't become common until the late-Nineties, so it's unsurprising that the Mac *Quake II* arrived two years after the PC release. The wait was worth it, though, as the Mac version is all but identical to the original. So much so that Mac and PC *Quake II* owners can face off in online deathmatches.





◂ N64

■ Essentially a reworking of the PC original designed to better suit the N64's reliance on cartridge-based storage, *Quake II* on Nintendo's system features stripped-back levels coupled with simplified systems. N64 *Quake II* does *feel* like the original, however, as it shares its aesthetics and game design.

PLAYSTATION ▸

■ Slightly less impressive than the N64 version in terms of speed and visuals, the PlayStation *Quake II* does convert levels from the Nintendo iteration nicely. Like the N64 port, the PlayStation *Quake II* has splitscreen multiplayer, it also adapts stages from the original game and boasts two exclusive Strogg opponents.



Image courtesy of hol.abime.net

◂ AMIGA

■ By 2002, the five-year-old *Quake II* was looking a little long in the tooth compared to cutting-edge FPS titles, but id's release of its source code the year prior convinced Hyperion Entertainment to release an Amiga version. The end result is close to the original, but it requires a fast CPU and accelerated graphics card.



▶ kind of a mess," Tim concedes, "although it *was* awesome. But the *Quake II* team rallied behind one art style, one art direction and story. We had better design, and we were focused. Paul Steed came up with our cinematic intro, which was really cool. He had worked on the *Wing Commander* series, and so he brought experience of story-based sci-fi action games. Adrian Carmack did amazing concept work on the Strogg creatures, and then Paul added personality to the animations."

The follow-up to *Quake* was further differentiated from the original game thanks to enhancements that id's lead coder John Carmack made to his *Quake* engine that allowed it to render brighter and far more colourful-looking levels. "We had a supercomputer that was literally the size of a refrigerator to process the lighting for the maps – it was *so* cool! "Tim enthuses, "No game had had coloured lighting before *Quake II*. So we were like kids with new toys; we went all crazy. I know there are some levels that look a little oddly-coloured, but it did give it a more colourful look. At the time it was like: 'This is awesome! Green and blue lights!' We also had light bouncing – simulated radiosity – so every corner of the world had some lighting."

Beyond aesthetics, the stages in *Quake II* also stood out from their *Quake* equivalents thanks to their more wide open and less linear nature, which Tim puts down to accumulated knowledge, a story-led approach to level design and the knowledge that PC gamers were continually upgrading their PCs with the latest tech. "We had more experience making levels, and we were trying to tell more of a story. Like there was the jail, there was the hanger and the processing facility, so we tried to give more identifiable locations to the areas. Plus computers were running faster. It was just a combination of all that, really."

Additionally, *Quake II*'s levels would be mission-based, and unlike *Quake* its sequel would require



» [PC] Tank Commanders are as hard as nails, and you face two at once in *Quake II*'s palace.



» [PC] Expect a blood bath when you reach *Quake II*'s final showdown with Strogg leader Makron.



» [PC] One of *Quake II*'s few aerial foes, Icarus travel in packs and makes for a tricky target.

players to make use of innovative 'hub' areas to jump from one stage to another and back again. "I can't remember if it was something that we had consciously planned for or if it just evolved," Tim ponders, "but you had these missions, and you would get radio alerts, because we just wanted to tell a better story and give a better experience, and the hubs were a byproduct of that. The hubs made the environments richer, so the world felt like a real place that you were infiltrating. They gave us the freedom to reuse areas and make players feel like they were in real space."

One innovation that proved a step too far, however, was the option of rescuing traumatised marines being loaded into meat processing machines in one of *Quake II*'s more gruesome missions, the processing plant. "We had that one mission with the processing plant," Tim recalls, "and you could just turn off the machines. I think it was the limits of the gameplay scripting, where what do you do with the marines when they're out? We didn't have AI, so they wouldn't follow you around. Plus those poor souls, they were already damaged beyond repair from the Strogg experiments."

Aside from making decisions on level design mechanics, new weapons were being designed for *Quake II*, although these were complemented by a selection of existing designs made popular by earlier id FPS. "There were some tried-and-true weapons – the lightning gun and the rocket launcher were from *Quake*," Tim acknowledges, "plus we had machine guns and the BFG from *Doom*, but *Quake II* was



"The railgun in Quake II was inspired by Eraser – the Arnold Schwarzenegger movie"

Tim Willits

sci-fi, so we also had hyper blasters. We tried to make the new *Quake II* weapons exciting and interesting, but yet remember that they always fulfilled a purpose in a situation. At id, we've always believed in situational weapons. So if a guy is close-up you use a shotgun, if a guy's far away you use your machine gun. You've got projectiles, explosives to get that instant hit. Each of these weapons actually fits a purpose of the gameplay. So we would find a situation that we wanted to engage an additional weapon for and then come up with a weapon."

Arguably the most memorable of the weapons to make its debut in *Quake II* was the now-legendary railgun, which Tim credits to company research on arguably the most memorable big-screen action hero of the Nineties. "The railgun in *Quake II* was inspired by *Eraser* – the Arnold Schwarzenegger movie," Tim reveals. "I went to see it with the guys, and the next day I went to John Cash. I told John: 'It's like a rocket, but it's an instant hit – it's called a railgun!'"

Perhaps reasonably, given the destructive power of *Quake II*'s railgun – not to mention its other deadly armaments, the game's sole animator Paul Steed decided that the focus of these lethal weapons, the Strogg, should be dangerous even in their death throes. "Paul wanted to bring more personality to the creatures," Tim recollects, "so the marines could shoot their heads off, but they could still shoot ▶



MISSION BRIEFING

Tips and vital info on five of Quake II's best stages

PROCESSING PLANT ▸

■ Built to render down captured marines into a disgusting slime that the Strogg feed on, the processing plant houses seven macabre machines sited on a circular route. Besides one tank commander, your mission to disable the machines is met with low-level opposition, although surprise attacks are common, so stealth tactics are advised.



◂ BIG GUN

■ The big gun mission's solid middle section pales in comparison to the epic boss fight at its start and the heartstopping race to safety at its finale. The mission's airborne boss – the Hornet – requires you to pepper it with heavy gunfire followed by taking cover when it returns fire, while the mission's end-of-level escape leaves no margin for error.

INNER HANGER ▸

■ The objective of storming the inner hanger is to close its doors and ground the Stroggs' spacecrafts. As the hanger is heavily guarded a slow, steady approach is recommended, particularly when negotiating its floating blocks and giant cogs. The Hornet guarding the hanger entrance is best tackled from a high vantage point.



OUTLANDS ▸

■ Bar for a gun emplacement near its start, whose operator can be taken out with a ranged weapon, the outlands mission is a high-tempo test of marksmanship. Following a hill pass, you cut across bridges and through caves while avoiding barracudas. Finally, you activate the air strike marker, take cover and then make your way to the exit.

◂ OUTER COURTS

■ Deep within the outer courts there's a data spinner that's required to shut down a Strogg communication system. The route to your target begins with a dangerous, stomach churning cliff-edge walk, after which the going gets tough, so have your biggest guns ready. The spinner itself is located after a disorienting underwater section.

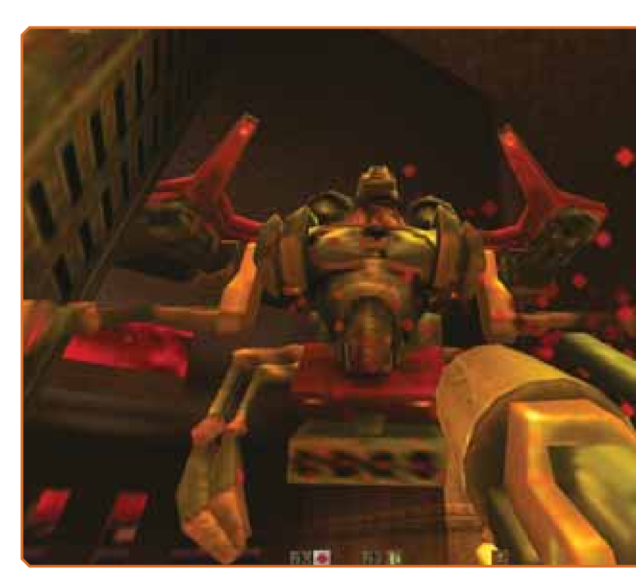


> "You know what? We did a lot of fun things, and it was a good time to be in the industry; it was a good time for id Software"
>
> Tim Willits

▶ back before they died. He thought it added more meat to the gameplay, so he drove that thought and inspired us to do that. Paul was our only animator, and he did model, too, so you could see his personality in some of the characters in *Quake II*."

But far from merely injecting their personalities into *Quake II*, those working on the title put everything they had into its development. Tim believes that youthful exuberance ultimately got the game over the finishing line, but he admits to cutting things a bit fine when it came to putting together the last remaining stage. "We put some crazy hours in, but we were all young. We made the hanger mission – which is not the greatest mission in the world – in the weeks before we shipped. It definitely came in hot!"

As well as a major shareholder in id Software, Activision was also *Quake II*'s publisher, and although the firm trusted id to deliver on time, it did have issues with the fact that the game required a fast PC that was preferably equipped with top-end graphics hardware. "Activision was concerned that you needed to have a graphics card," Tim accepts, "that it was required for *Quake II*. But you know what? By the time *Quake II* came out everyone was pretty hot for the new graphics cards and CPUs. It was kind of the norm. *Quake II* was not the only game that you needed to buy the new cards for. The Epic guys were making great stuff, and there were lots of games companies who were making cutting-edge games, so it wasn't really that big of a deal."



» [PC] Hornet's wings make him one of *Quake II*'s most manoeuvrable, and therefore most dangerous, bosses.

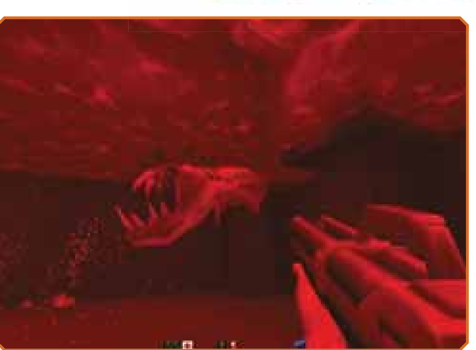


» [PC] Half-man, half-machine and completely lethal: *Quake II*'s Super Tank is a seriously tough boss.

On *Quake II*'s release, it became clear that Tim's assessment of the wider gaming market had been correct and that Activision's anxieties had been unfounded. The game sold nearly a quarter of a million copies in its first few months on sale alone and garnered unanimous praise from the press, praise that still endures to this day, although Tim's memories of the critical and commercial response to *Quake II* have faded over time. "I don't remember. Did *Quake II* get good reviews?" Tim asks us. "I always tried to focus on the game. I really loved working on *Quake II*, and I felt personally that I had grown a lot as a designer. We had such fun making that game, and there was so much talent. We were more focused, we were more design-driven and we all liked each other. So it really showed in the product, you know. *Quake II* was a labour of love that I was very proud of."

In the years that followed, id licensed the engine that had powered *Quake II* for use in a number of popular third-party titles, each of which Tim viewed with pride. "They were all great," Tim exclaims. "I loved all of the *Quake II* engine games. We were blessed to work with teams like Raven, Ritual and Activision that took the *Quake II* engine and did amazing things with it. And look at





» [PC] Although relatively easy to dispatch, the barracuda in *Quake II* can rapidly destroy your health points.

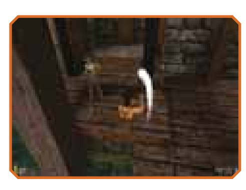
Half-Life, which changed the industry, I mean, it was awesome. They felt like id games. I always brag about the origins of those games and how they were based on id Software technology. We were always a small company, so we had a small foot. But we had a giant footprint, and that was the software – that was always a point of pride."

When looking back at *Quake II*, Tim offers an equally enthusiastic appraisal, with his one caveat being his conviction that the much-loved id FPS should've had a different name and should've been the first chapter in a new franchise. "Well it's still fun," Tim notes, "there's still a ton of people that really love it. We made the rockets slower than *Quake*, and some people are sad about that. Some people love *Quake II*'s speed, some people prefer *Quake*'s speed; it just depends on which *Quake* you played first. *Quake II* should have been called something different in my personal opinion – I will say that. But you know what? We did a lot of fun things, and it was a good time to be in the industry; it was a good time for id Software. And then, of course, the greatest gun ever was the railgun. *Quake II* was the culmination of the people that worked on it, because everyone was pretty unique and different in the team, and we really tried to be pretty flat in our design structure. So it was fun to work on the game." *

ENGINE EXPLOITS

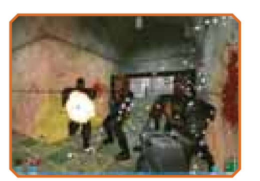
Memorable games that used Quake II's engine

HERETIC II



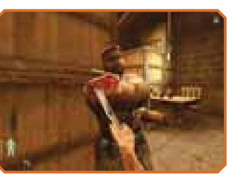
■ Given that the inspiration for *Heretic II* was *Tomb Raider*, it makes sense that it sports a third-person perspective. This perspective shift allows for various gymnastic-style moves, but just like *Quake II* the *Heretic II*'s focus is on melee and range attacks, and push-button puzzles.

SIN



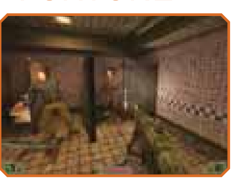
■ The main attraction of *SiN* is that it adopts *Quake II*'s gameplay wholesale while adding innovations to create an entirely different gaming experience. Its fresh features include banter between the hero and his team, interactive environments and drivable vehicles.

KINGPIN: LIFE OF CRIME



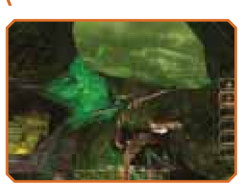
■ Released two years after *Quake II*, *Kingpin* surpasses id's title in several areas. *Kingpin* boasts superior character models, and its NPCs can help its hero by providing information or joining him on missions. *Kingpin*'s firefights are pure *Quake II*, though.

SOLDIER OF FORTUNE



■ Besides feeling more cinematic than *Quake II* thanks to its animated cutscenes and dramatic orchestral soundtrack, *Soldier Of Fortune* differentiates itself from the id game with far more graphic violence. As well as heads, *Soldier Of Fortune* allows arms, legs and even groins to be blown off.

DAIKATANA



■ Remembered for all the wrong reasons, *Daikatana* took three years to make and was panned on release for having bugs and being dated. But with its bugs patched and as *Quake II* engine titles go, John Romero's time-travelling PR misfire is an excellent single-player FPS.



Dreamcast Controller Fact

■ The Dreamcast controller makes a cameo in *Sonic & All-Stars Racing Transformed*. AGES uses the controller as its boat form, and appears as a VMU when it scores a podium finish.

Dreamcast Controller

» **RELEASED:** 1998 » **PLATFORM:** DREAMCAST » **COST:** £19.99 (LAUNCH), £5+ (NOW)

When designing the controller for the Dreamcast, Sega clearly looked back at the Saturn's 3D Controller, which had been bundled with *NiGHTS Into Dreams*. Both controllers share a similar bulky body and button layout, although the Dreamcast's controller offers a more conventional (and rather sensitive) analogue thumbstick, and has two fewer face buttons. The Dreamcast controller also offers two expansion bays, with a window in its face to allow you to see the peripheral in the front bay – usually the LCD screen of a connected Visual Memory Unit (right). Other peripherals, such as the Vibration Pack and the Dreamcast Microphone, are more commonly used in the rear bay. Oddly, the controller's cable is located at the bottom of the controller, and directed upwards by a clip on the rear of the expansion bay.

The Dreamcast controller was good for general 3D adventure games and, thanks to its analogue triggers, racing games. However, it wasn't so well equipped for the Dreamcast's many fighting games, nor its first-person shooters. Additionally, players with larger hands tend to find the controller less comfortable to use. Though it was to be Sega's last all-purpose home console controller, the Dreamcast controller's design was a clear influence on Microsoft's Xbox controller.



ESSENTIAL GAME

Metropolis Street Racer

Here's a game that uses most aspects of the Dreamcast controller in-game, and highlights its best features as it does so. *MSR* is a joy to control thanks to the Dreamcast's analogue L and R triggers, which give finer control over acceleration and braking that had been possible on standard controllers of the past. The steering was also nice and precise thanks to the analogue stick, and you had a thumb free for gear changes and the handbrake on the face buttons. You'll need all that control, too, as challenges get devilishly tricky later on in the game.



> I was a little sceptical at what I could bring to the industry because I have a very 'pen-and-ink' style
>
> Brian Colin



BRIAN COLIN

With the Rampage movie lighting up the silver screen this year, we caught up with the creator of the coin-op to find out about his four decades of making games for arcades and the home

Words by Paul Drury

We first met Brian Colin at the Freeplay Florida show last year, surrounded by cabinets and pinball tables from the golden age of arcades. It felt like he was in his natural habitat. Brian was right at the centre of the booming North American arcade business in the Eighties, a key member of the Bally Midway team, who worked on some of the best-loved and highest-grossing games of the era – as well as some entertaining oddities. Since setting up Game Refuge in 1992 with his long-time collaborator Jeff Nauman, he's applied his game design and artistic talents to a wealth of projects, ranging from touchscreen bar games to Facebook apps and site-specific advergames. Visit gamerefuge.com to find out more about his fascinating career.

So Brian, first thing's first: did you smell what The Rock is cooking?
[Laughs]. We're not quite that close. It was fun getting a taste of the production of *Rampage*, that's for sure.

Did you actually get to meet Dwayne 'The Rock' Johnson during filming?
Yes I met him and Naomie Harris. The producer, John Rickard, invited me down and I got to hang out at the studio in Atlanta during the final week of shooting. While on location in Chicago, I was actually asked to do a cameo in one of the scenes. During the climax when one of these huge buildings is falling down, I'm running in terror towards the camera. It was in every test screening but got cut just before the final release. I'm waiting for the director's cut!

Did you ever think your arcade game from the Eighties would be turned into a film?
I really didn't. Back when we created it, there weren't any videogame movies, so it never crossed my mind. I did think of merchandise, though. I thought the monsters could really work. When I heard John [Rickard] was planning it, the grin started spreading across my face.

There is something cinematic about *Rampage*, though. It's like a love letter to those old black and white monster movies. Are you actually a destruction-loving filmmaker?
You're rather astute! I made dozens of short films back in high school and went to film school but ended up going into animation, because I can also draw. I won a number of international awards for the animated films I did. So yes, I'm a filmmaker at heart.

» [Arcade] *Spy Hunter* let gamers live the *James Bond* fantasy and strapped them into a high-tech, gadget-filled vehicle.

There's another film link at the start of your videogame career with *Discs of Tron*.
That was the first ever game I worked on and I was flattered they wanted me as I was an animator. I was a little sceptical at what I could bring to the industry because I have a very 'pen-and-ink' style but the designer on that game was pushing against every envelope there was. If you've ever played the environmental cab version, it was a full 3D experience. I brought in fairly realistic animations of [the player character] jumping and falling. It was the perfect first game for me because immediately I realised what you could do [with videogames] if you kept pushing!



You worked on *Kozmik Krooz'r* around the same time, again with a two-level cabinet design.
That started as a space game called *Mothership* with



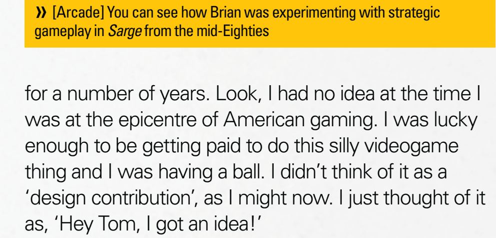
some interesting 3D mechanics but nothing to bring a smile to your face and it didn't do well on test. I asked if could reskin it and turned it into this silly, cartoony game, which did much better. Bally fell in love with the main character and even lent him out to another game called *Wacko*. It was a great time to get into the industry because management weren't afraid to let developers try stuff. We were all still figuring things out.

Did you get into the industry because you were a gamer?
Not at all. I really hadn't seen that many videogames and my hand-eye co-ordination isn't the best. When they offered me the job, I told George Gomez, the de facto head of the development team at Midway, my advertising business made close to $300 a month. He smiled and said he thought they could do better – and offered me $13,000 a year. I told my friends, 'Well, childhood is over - I got a real job.' And I choked up. But I was wrong about childhood being over… I'm still hanging on to it at 62!

Midway's early successes were based on licensing Japanese games, notably *Space Invaders* and *Pac-Man*, but when you joined in February 1982, it was just getting into developing its own titles as Bally Midway.
They'd started their own little independent group based off-site, a few blocks away [from the manufacturing plant], and when I arrived, they were just finishing *Satan's Hollow* and were still working on *Spy Hunter*. The atmosphere was like… I was going to say a college fraternity but it was more like *Animal House*. We'd work until midnight but we'd also go out for three-hour lunches in the park, play volleyball and drink heavily. Management let us do that because we delivered on time. If you didn't deliver your game to the deadline, people got laid off. It was a great way to learn discipline.

Did you work on *Spy Hunter*?
We all helped each other and as an artist and animator, I got to work on everything. When I first saw *Spy Hunter*, the programmer, Tom Leon was still working on tuning the basics, like how fast you can go. The artists like me, were saying, 'Oh, if we do this, we can have an oil slick or a smoke screen,' or, 'Hey, if we change a few background blocks, we can put you in a boat!'

That's more than doing the art – that's changing the gameplay!
Right. Management frowned on the word 'designer' for a number of years. Look, I had no idea at the time I was at the epicentre of American gaming. I was lucky enough to be getting paid to do this silly videogame thing and I was having a ball. I didn't think of it as a 'design contribution', as I might now. I just thought of it as, 'Hey Tom, I got an idea!'



» [Arcade] You can see how Brian was experimenting with strategic gameplay in *Sarge* from the mid-Eighties

Did you realise *Spy Hunter* was going to be a huge success?
When you have to lift your coworkers out the chair so you can get back to working on it, you know it's going to be a hit!

You also worked on *Spy Hunter II*, which let's just say isn't as fondly remembered…
[Sighs]. Tom Leon had been made the manager of the department and he always wanted to do a sequel. We had this game *Max RPM* and we'd simulated this 3D view down a road. He saw that as a way to do a first person *Spy Hunter*. A number of us pointed out some of the problems from the start – there just wasn't enough hardware capability to do it justice.

Though *Spy Hunter II* is often cited as the worst sequel ever, it did at least introduce two-player simultaneous play, something you pursued with *Demolition Derby* (1984) and *Sarge* (1985).
That multiplayer thing started with a game idea called *Ant Raid*. It had a top-down view and you had different types of ants, like soldier and flying, and these two anthills competing for all the food in the junkyard. It was basically a real-time strategy game. I loved the concept so I created graphics for some cartoon ants wearing helmets and with big muscles. It was a fun two-player game but the programmer never put any real AI into the game so it went out on test as only a two-player game… and it just didn't earn enough to go into production.



» [Arcade] Brian has worked on some excellent arcade games in his long career. *Spy Hunter 2* isn't one of them.

> I was lucky enough to be getting paid to do this silly videogame thing and I was having a ball
> Brian Colin

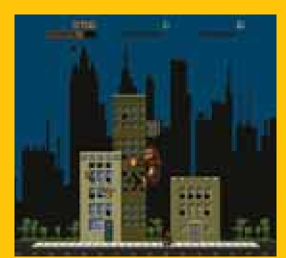




FIVE TO PLAY
A quintet of Colin classics to smash through



DISCS OF TRON
■ Whilst the original *Tron* coin-op featured four minigames, Brian's debut title took the memorable 'killer frisbee' battle sequences from the film and turned them into a full game. Best played standing in one of the huge, immersive environmental cabinets. Or in Flynn's Arcade.



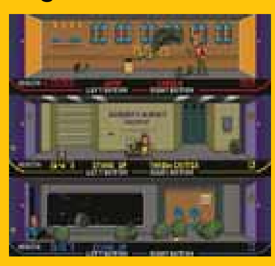
RAMPAGE
■ Brian's most famous game is full of his trademark touches – lots of visual wit, comic book stylings and a focus on multiplayer. He revisited the game in the Nineties with *Rampage World Tour*, which added even more hidden features and let the monstrous trio wreak havoc across the globe.



ZWACKERY
■ Featuring Zak Thwacker, a spellcasting, sword-wielding wizard, this is another game best played on an original cabinet due to the unusual controls. Brian believes only 170 machines were ever made, but Galloping Ghost has one featuring some of his bespoke art, so when you're next in Chicago…



PIGSKIN 621AD
■ This is Brian's favourite of all the head-to-head games that he worked on, so it would be rude not to give it a mention in this list. *American Football* goes Anglo-Saxon with *Beowulf* levels of brutality. Excellent when played with a fellow warrior after several drinking horns full of mead.



XENOPHOBE
■ With more than a nod to Ridley Scott's *Alien* series, this atmospheric flick-screen adventure allows three players to blast the alien scum together. Full of graphical flourishes and secrets to uncover, this is also best played on an original cab. Can you see a theme here?

Did that RTS concept get filtered into *Sarge*?
Skip ahead a few years and I'm working with a programmer Jeff Nauman and he wanted to do a tank game. I loved the idea in *Ant Raid* of one guy controlling multiple characters so I suggested we have a guy running between a helicopter and a tank. And by adding a third [computer-controlled] player, you could play co-operatively or you could fight with each other. It changed the dynamic and gave it a lot more depth. It paved the way for a lot of our future games.

We like the comic touches in that game, like shooting the annoying bugler. Putting humour in games seems something you value.
Peter O'Toole said it best in *My Favourite Year*: 'Dying is easy, comedy is hard.' Making people laugh is what I enjoy doing. When our games were out on test, we would go and stand at the back of the arcade and more often than not, if players were smiling when they died, they'd reach for another quarter.

***Zwackery* (1986) was also full of humour but had a complicated control system.**
The controls were like *Discs of Tron* and back then, Midway's policy was to do everything possible so our games couldn't be replicated at home. We were an arcade manufacturer; so we wanted to be sure that players had to go to the arcade to experience the immersive feel of a game, so unique control and cabinet configurations were a top priority. That's why emulators will never really do justice to games like *Kozmik Krooz'r*, *Spy Hunter*, *Discs of Tron* and so many others. So management loved *Zwackery* with its multidirectional joystick and spinning knob!

» [Arcade] *Zwackery* had a unique control system utilising a joystick and "spinning knob". You'd have to play the coin-op to truly appreciate it.

That seems like a strange policy…
Look, the management at Bally Midway came from a manufacturing background and were a bit clueless as to this whole videogaming thing. It was good at first because they left us alone but by the mid-Eighties, they were looking at the home systems and thought they would be the death of their arcade business, rather than thinking of the money they could make from licensing. So they wanted their games to be hard to put on the home systems. I was saying, 'Hey, if home systems are the future, we should view our arcade games as loss leaders!'

Did they listen?
Hey, I just said this to my peers. I wasn't going to go to management… it wasn't until later, when we got a new president in around 1986, and he said he had an open door policy. This kind of links to *Rampage*.

Let's talk about the game you're most known for, then!
I was talking with some coworkers about making a game with great big characters so I could show faces, I could show comedy… but I was told that hardware limitations wouldn't allow us to do large background animations and all we could animate at that size was a rectangle. So I thought, 'Okay we could have a building falling down – that's just an animated rectangle! We could cover up the bottom with dust and then I could do a giant monkey, like King Kong, hanging on the side of that building!' We all loved the idea and we grabbed a programmer called Jeff Nauman and we went to our manager and he said… 'No.'

» 'I knew I should never have swam in that radioactive lake', muses Brian…

SELECTED TIMELINE

GAMES
- **DISCS OF TRON** [1983] ARCADE
- **KOSMIK KROOZ'R** [1983] ARCADE
- **SPY HUNTER** [1983] ARCADE
- **DEMOLITION DERBY** [1984] ARCADE
- **SARGE** [1985] ARCADE
- **RAMPAGE** [1986] ARCADE
- **ZWACKERY** [1986] ARCADE
- **ANT RAID** [UNRELEASED]
- **P'TOOIE LOUIE** [UNRELEASED]
- **XENOPHOBE** [1987] ARCADE
- **SPY HUNTER II** [1987] ARCADE
- **BLASTED** [1988] ARCADE
- **ARCH RIVALS** [1989] ARCADE
- **PIGSKIN 621AD** [1990] ARCADE
- **GENERAL CHAOS** [1994] MEGA DRIVE
- **MAJOR SNAFU** [UNRELEASED]
- **RAMPAGE WORLD TOUR** [1997] ARCADE
- **STAR TREK VOYAGER: THE ARCADE GAME** [2002] ARCADE
- **ARCTIC STUD POKER RUN** [2008] PC
- **RAIDERS RUN** [2015] IOS
- **THE SPECTRE FILES: DEATHSTALKER** [2017] ARCADE





Erm, so what happened?
It didn't stop us! We knew we had a great idea so Jeff and I started working on a proof of concept and this new company president said he had an 'open door policy.' Needless to say, I was at his door the next day at 8.59am. I pitched *Rampage* and he said yes.

The partnership you formed with Jeff has lasted for over 30 years now. You must really get on with each other.
Actually, we're very different people. I'm an artist, he studied statistics at school. He's a sports nut and not much of a talker and I've made a career out of it! In those early days, if you were having a conversation with Jeff and he approved, he'd nod. If he didn't, he'd spit in his cup. He was a real country boy. I had to learn new communication methods but we respected each other. We were both all about the end product.

We wondered if working closely with someone might be why most of your games often have a strong multiplayer element?
Jeff and I agreed that any game, good or bad, is better with two players. Plus it makes more money for the operator. We basically had two customers – the player who wants to live forever and the arcade operator who wants them off the game in 30 seconds. We had to try to make them both happy! We recognised multiplayer was a way to get earnings up without kicking the player off too soon.

» *The Rampage* dev team believed in 'method coding'. Brian (topless) is on the far right.

With flip-screen shooter *Xenophobe* you allowed three players to play simultaneously, which was quite novel for the time, and you really went to town with the characterisation in that game. What's the deal with the guy with the super pointy head?
[Laughs]. I was influenced by underground comics of the late Sixties and early Seventies when I was growing up and there's some of *Zippy The Pinhead* in *Xenophobe*. I took every opportunity to get in a bad pun plus I was all for reusing assets. If I could just stick on a new head, like a duck, and get a whole new character, I would. With *Rampage*, Ralph is just George in a different colour palette and a different head!

At the end of the Eighties, you produce some interesting sports games in *Arch Rivals* and *Pigskin 621AD*, which again allow you to explore multiplayer but don't take a traditional approach to simulating a real-world sport.
Jeff came up with *Arch Rivals*. We both like that idea of multiple characters controlled by a single player and he could see that would allow us to make the first basketball game with real strategy. He was like, 'We can let players set up a pick!' I said, 'This is going over my head but if you can foul people, I'm in!' About halfway through the game's development, we were bought out by Williams, our biggest competitor, and we weren't sure we'd be able to finish the game but they kept us on and it did really well. We wanted to do a follow-up based on football, but they already had one in development.



» [Arcade] Brian's first console title after leaving Bally Midway was *General Chaos*, an entertaining and tactical treat.



» [Arcade] *Arch Rivals* undoubtedly paved the way for the all-conquering basketball king of the arcade, *NBA Jam*.

So instead you decide to take *American Football* back to the first millennium.
Yeah, we said, 'Okay, let's call it no-rules rugby and set it in ancient times because then we can use blades and axes and torches… and trolls!' We knew we could have a lot of fun… and you can control up to six players at the same time in that game. It's still my favourite of all my head-to-head games.

Did not being a sports fan actually help?
I felt with *Arch Rivals*, I was a little restricted because it had to be sort of realistic, though I did make it as cartoony as possible, with the bulldog and little round referee. With *Pigskin*, I could let out all the stops. I wanted to make in entertaining and make you smile. If you want realism, get out there and play the game in the real world! Like films, videogames are about fantasy. I've had this conversation with so many programmers over the years who are trying to recreate reality. No! You can tell me a game uses the actual physics of a ball bouncing, but instead, if you make it squash flat as a pancake and then bounce three times higher, that's surprising and entertaining to the player. What matters is what the player takes away.

We can definitely see that approach in *NBA Jam*. How did you feel when that became a huge hit?
When I initially saw it, I thought they'd stolen our idea. We'd left Midway by then – EA had lured us away. I felt much better when I found out the designer of *NBA Jam* was a huge fan of *Arch Rivals*. Imitation is the sincerest form of flattery but yeah, of course I'd have loved to have a game that sold as well as *NBA Jam*.

How exactly did EA lure you away?
When Midway closed the manufacturing plant, both Jeff and I didn't want to move [with them] to California so we stayed in Chicago, working from home. I'd been saying to Jeff for years that there were more and different games we could do outside of Bally Midway and we should go it alone. During the development of *Pigskin*, someone from EA approached us to work for them and their contract gave us enough money to form our own company. We left Midway under good terms.

That game was *General Chaos*, proving you may have left the arcade behind but not your love of puns. Was the move from coin-op to the Mega Drive a difficult one?
When we were working for EA on the Genesis, they



» [Arcade] After 11 years, Brian returned to *Rampage* for its first sequel, *World Tour*. It's best to leave this one alone, mind.

> "For a lot of years, I thought everyone had forgotten about Rampage"
> Brian Colin

gave you tools made in-house and they really worked! In that respect, two guys, Jeff and I, could do an entire game quickly. The support was there and it made the development very straightforward and clean. Making *General Chaos* was a really good experience.

Sadly the follow up, *Major SNAFU*, another great pun, was never released. Do you ever get used to projects being cancelled?
It hurts every time. In hindsight, you can say about some games, 'Yeah, just because we could do it, didn't mean we should have done it.' Like *P'Tooie Looie*, which had a bikini-clad boomerang-throwing cavewoman riding a huge, watermelon-eating pterodactyl and you'd spit watermelon seeds at giant invisible killer bees. You just wonder why that didn't take off…[laughs].

One of your cancelled games from the Eighties has finally got a release. Tell us about *The Spectre Files: Deathstalker*.
Back in the mid-Eighties, Midway had bought in some horrible LaserDisc games like *Star Blazer* and *Astron Belt*, which were nothing more than a camera moving down a canyon. Because of my film background, I said, 'Give me a small budget, a month of shooting and a couple of months editing and I can turn this text adventure I wrote into an interactive LaserDisc game.' We shot a demo in Super 8 and management liked it, so I put an advert in the press saying, 'Vampires wanted. No experience necessary.'

Did anyone reply?
We got a bunch of actors from across Chicago and we filmed in an abandoned mental institution which had electricity, but no heating, during the coldest February on record. Our breath froze on the ceiling and when we turned on the lights, it heated the ice up and it fell like it was snowing indoors! The filming and editing were all finished but by then, Bally had decided to quietly pull out of the LaserDisc business and I've been sitting on the footage for *The Spectre Files* for over 30 years. Then Doc Mack, who runs the Galloping Ghost arcade here in Chicago, encouraged me to actually make it into a game and this past Halloween, it premiered at the arcade. It's low, low-budget horror and you get to make choices about which way the story will go. It's been a phenomenal hit – people come in just to play it. I'm so grateful to everyone at the arcade.

Since the mid-Nineties your company Game Refuge have moved into many fields, from developing site specific games and coin-op games for bars, to mobile titles and Facebook apps. Do you enjoy the variety or do you ever get frustrated at having to be a 'Jack of all trades'?
[Laughs]. We may be Jacks of all trades but we are masters of arcade! I do always have that to fall back on. I've spent my career working on stuff until someone taps me on the shoulder and says, 'Hey come and look at this…' When the taps are pretty regular, I'm happy to be pulled into stuff I haven't done before. It's always about pushing against boundaries.

Since the *Rampage* film came out, have people been coming up to you and saying, 'Aren't you the *Rampage* guy?'
They have and it's wonderful each and every time. For a lot of years, I thought everyone had forgotten about *Rampage* and then with the movie, I've had hundreds, no, thousands of people, coming up to me and saying, 'I remember that game and it was a big part of my childhood'. Some of the stories make you choke up. A guy told me it was the game that helped him connect with his father because his mother was ill and this was what they played together. To realise you've touched so many lives… at the time you have no idea.

Which character do you choose when you play *Rampage*?
It's got be George! ✱

YOU ASK THE QUESTIONS

Where Brian rampages through your queries

MERMAN: Which game took the longest to develop, and why?

Most of the early arcade games that I helped create took nine to 11 months from concept to test. We stuck to our deadlines for the most part. We were developing games for a manufacturer, so if we didn't deliver on time, folks down in the factory below us would get laid off. Some, like *Discs Of Tron* and *Spy Hunter*, were in development before I started at Bally Midway in February of 1982 and weren't released until 1983, so I'm guessing their development was closer to 18 months.

NORTHWAY: Do you have an interest in filmmaking, similar to Jordan Mechner?

I was a filmmaker in high school, and I was a filmmaker in college. I moved over to animation because it gave me greater control. My animated film *In Search Of A Plot* won a number of international awards. Stumbling into videogames at just the right time was simply a happy accident.

MR JENZIE: If you could mix any three of your games and create a new one…

That's a fun question that I have never before considered! Off the top of my head I would have to say that, by design, most of my games are very different from each other, and as such I don't really think any of them would combine together easily. Having said that, what about a multiplayer game in which players choose to control a single giant monster or an elite squad of combat veterans for control of a city? Would you play a *Rampage*/*General Chaos* mash-up?



SPELLBOOK TAKEN.
YOU CAN'T GO THAT WAY.

Eye Of The Beholder

REGRETS, I'VE HAD A FEW

» RETROREVIVAL



» AMIGA » WESTWOOD ASSOCIATES » 1991

We all have regrets when it comes to games. My biggest personal gaming regret was selling my US Super Nintendo with around 60 games for an Amiga 1200. I've regretted it all my adult life, more so when I consider what my pristine collection of US and Japanese games would now be worth. "So why did you buy an Amiga 1200?" I hear you ask. The answer is simple – the Amiga 1200 was available when I was obsessed with *Dungeons & Dragons*.

Every Saturday night, when my friends were getting drunk at nightclubs or going out with girlfriends, I was playing *D&D* with a bunch of similarly cool (geeky?) friends. I'd built my Ranger, Lorimar Leafstar, up from level one into a lethal killing machine and I lived for those Saturday nights of *D&D*. Those late night sessions into Sunday mornings were never enough, though, and I began looking elsewhere for my *D&D* fix. The search inevitably led me to the Amiga 1200 as it had a huge number of *D&D*-based games, including *Eye Of The Beholder* and *Eye Of The Beholder II*, which I was desperate to play.

After doing the trade I hastily went home and loaded up Westwood's game… and it was every bit as good as I hoped for. Yes, the loading times were irksome (I ended up buying a second disk drive the following weekend) but everything else about it was fantastic. The level design was intricate and interesting, there were plenty of engaging NPCs to interact with and it was great seeing the spells we flung about on a Saturday night come alive on my TV screen. I wasn't even that upset by the minimal frames of animation because the creature designs themselves were so good. Playing through *Eye Of The Beholder* and its sequel was a watershed moment for me.

Ultimately the Amiga wasn't the right fit for me because it simply didn't have enough of the games I really loved playing on it, and I eventually swapped it back for another SNES (with far fewer games, I might add) but I'll never forget how it allowed me to experience *D&D* in a whole new exciting way. That's something I'll never regret. *



RETRORATED

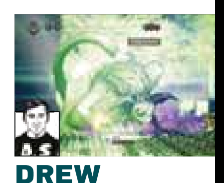


>> This month we look at Fantasy Flight Games' adaptation of Fallout, go on a quest with eight adventurers in Octopath Traveler and find out if Tempest 4000 was worth the wait (it was)

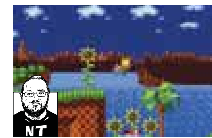
PICKS OF THE MONTH



DARRAN
Tempest 2000
More blasting brilliance from Jeff Minter. It's not quite as good as *TxK*, but it's very , very close.



DREW
Octopath Traveler
It brings the old JRPG formula bang up to date with its excellent presentation and developed systems.



NICK
Sonic Mania Plus
I loved this last year, and Encore Mode has given it a whole new lease on life that dragged me back in.



UNDER THE INFLUENCE

Endgame scoring is handled via Agenda cards, with several dished out at the start of the game and more up for grabs for completing missions. Some are way more valuable than others, adding too much of a random element to the outcome of what's a long game.

SPECIAL EFFECTS

The tracker cards perfectly capture the systems of the *Fallout* games, from perks to inventory and dealing with followers. Even the health system is smart, with damage chipping away from one end of the bar while radiation eats into your max health from the other end.

Fallout VATS ENTERTAINMENT

INFORMATION

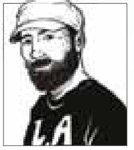
» **FORMAT:**
BOARD GAME

» **RELEASED:**
OUT NOW

» **PRICE:**
£49.99

» **PUBLISHER:**
FANTASY FLIGHT GAMES

» **PLAYERS:**
1-4

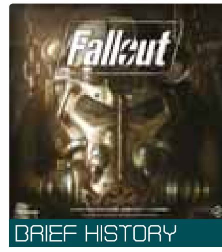


It seems like everybody wants a piece of the board game boom, though it's safe to say that not every licensed release really does justice to its subject matter. The path of least resistance is to simply reskin an existing title, as evidenced by the millions of versions of *Monopoly* based on popular franchises out there, although there are pretty much only a handful of properties for which a fundamentally broken capitalism experiment is actually a good fit. The best examples – things like *XCOM* and *The Witcher* – instead cleverly adapt game mechanics into tabletop ones, and *Fallout* is right up there with those top flight board games in terms of creating an experience that genuinely feels like *Fallout*.

The complex narrative webs and freedom of player choice of the videogames would perhaps lend themselves to a more open *D&D*-like tabletop experience, but trust Fantasy Flight to be able to distil the essence of the open-world adventures into something a little more structured and accessible. Modular tile-based maps offer free exploration, dynamic event decks offer engrossing branching narratives and random encounters, and the player progress system is beautifully on-point, using an adapted version of the videogames' SPECIAL traits system to allow for specialisation in various disciplines.

Worldbuilding is fantastic, then, but combat was always going to be that much more difficult to emulate. The





BRIEF HISTORY

» Since it first emerged from the Vault back in 1997, *Fallout* has consistently been the benchmark against which all other post-apocalyptic adventures have been judged. The early isometric titles were outstanding, but the game's reinvention as a fully open 3D world with 2008's *Fallout 3* turned a classic gaming series into a modern day heavyweight.

WONDERFUL WASTELANDS

Only a handful of key locations are face-up from setup, with other regions dealt out face-down randomly to ensure a different map layout to explore every time. The two different tile backs still give a rough idea of difficulty, though, so you don't have to worry about accidentally stumbling into a Deathclaw nest before you're ready.

CHOOSE YOUR OWN ADVENTURE

Branching storylines are a clear highlight of *Fallout*'s tabletop incarnation, with each quest step staging active objectives, seeding new cards into the exploration deck, or even creating whole new decks, all depending on the choices each player makes.

dice-based system here is interesting enough, with each enemy requiring a certain number of hits to designated weak points to defeat them. The three custom dice have various permutations of said body parts (head, torso, arms, and legs) along with pips which, in combat, indicate damage done by the enemy, and equipment and skills allow for a certain number of rerolls as you chase the necessary hits or try to mitigate incoming damage. It can be quite tricky as enemies hit hard and you start out pretty weak, so scavenging for a few bits of gear before getting into combat usually tends to be the smart play.

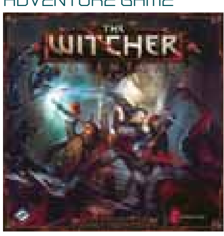
The base game comes with four different scenarios, each of which has its own map layout, unique warring factions and special conditions that modify the flow of the game slightly. The common theme is that each has tracks for charting the progress of each faction towards its goals and ultimate victory, with player choice in story missions typically bumping one of the two up the ladder a little at the expense of the other. Having the game automatically end if either side reaches the final space of the track frequently leads to anticlimactic finishes just as things seem to be getting interesting, and this coupled with the points-based win condition for players makes the endgame easily the weakest part of *Fallout*. Alliances are formed via randomly drawn Agenda cards (which also make up the scoring component, with varying amounts of Influence afforded based on completing certain tasks), so there's not really a lot of skill involved in actually 'winning' – top-deck a good Agenda card and you might double your Influence and even end the game, while other times you just end up milling through low-scoring cards or ones that conflict with your existing ones. It's even messier with more players as each will be following different agendas and there's no direct player interaction, so it's not like you can even do anything to stop someone else from completing something that might interfere with your own plans.

> "MODULAR TILE-BASED MAPS OFFER FREE EXPLORATION"

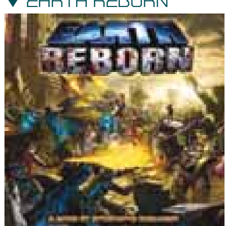
It's a shame that something so fundamental as scoring is so weak, especially when everything else about *Fallout* is absolutely fantastic. Adopting house rules to prevent damp squib endings and reward players more fairly for progress goes a long way towards remedying the issue, and even something as simple as extending the faction track to lengthen the game can lead to more satisfying final acts. Hopefully the inevitable expansions will do something more official to remedy this one black mark against an otherwise great game but in any case, this is a wonderfully authentic *Fallout* experience for the most part and one that can really shine if you're willing to deviate from the rulebook a little in order to get the most out of it. ✱

✱ WHY NOT TRY

▼ THE WITCHER ADVENTURE GAME



▼ EARTH REBORN



✱ PICK OF THE MONTH

Octopath Traveler

» System: Switch **» Buy it from:** Retail, eShop **» Buy it for:** £49.99

The old-school JRPG is alive and well in today's gaming landscape. The popular genre has seen a steady line of releases over the years, so much so that has Square Enix set up the aptly named Tokyo RPG Factory to churn out nostalgia-baiting releases.

Octopath Traveler follows in those footsteps, developed by team members behind the *Bravely Default* games with help from Tenchu studio Acquire. But rather than ape on the golden age of pixel JRPGs, like Tokyo RPG Factory's output, *Octopath* uses it as a base and builds on it to create a new beast.

The presentation, for example, is a gorgeous blend of new and old, with 2D 32-bit-like sprites integrated into 3D environments, giving the whole game a sort of diorama feel. The visuals are supplemented by a full orchestral soundtrack and voice acting – the former is evocative and includes a catchy battle theme, but the latter is hit and miss.

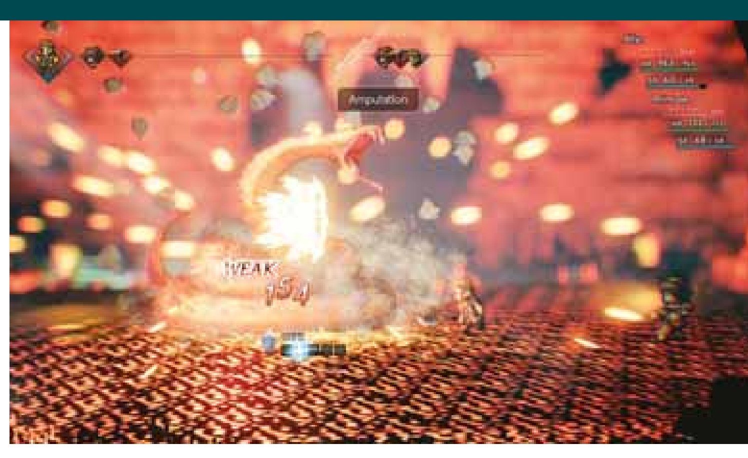
Take a deeper look into the game design itself and the updates continue. Unlike the linear stories you may be used to, in *Octopath* you're given freedom to tackle eight quests as and when you like to – each one tied to one of the game's eight main playable characters. The battle system, too, is robust. It utilises a turn-based system – rather than an ATB-styled one – and favours tactical decision-making. You can knock enemies out of the battle queue by exploiting their weaknesses, which is something you'll come to rely on when duelling against the gruelling boss encounters.

Ultimately, this makes *Octopath Traveler* a pleasant surprise for fans of the genre. That said, with its nonlinear nature, the story does suffer. Party members don't really react to one another in any meaningful way, and they don't have a good, unifying enough reason to be travelling together outside of 'because the game needs them to'. And while *Octopath* updates a lot of dated conventions, it still falls into the pitfall where random encounters quickly become busywork.

Still, though, this is perhaps the best retro-inspired JRPG we've played in recent years, and is well worth picking up if you're a fan.



Score 77%





» [Switch] Alfyn's handy with an axe, where Primrose works better as a support character.

» [Switch] Each of the eight main characters have their own quest to follow.



Sonic Mania Plus

» System: PS4 (tested), Xbox One, Switch, PC
» Buy it from: Retail, Online **» Buy it for:** £24.99

Last year's acclaimed *Sonic* game is back as a physical release, and it has received lots of polish and upgrades to mark the occasion. The game adds two new characters, Mighty and Ray from *SegaSonic The Hedgehog*. Mighty has a ground pound and autoshield while rolling, and Ray has a glide which works like the cape from *Super Mario World*. There's also a new Encore Mode, featuring remixed versions of the regular stages, an extra short returning stage and a neat new pinball special stage. Encore mode also features a character-swapping mechanic instead of a traditional lives system.

Sonic Mania is already a treat for anyone who enjoyed the Mega Drive games, and the additions only serve to improve an excellent game.

» **Score 94%**



Pocket Rumble

» System: Switch (tested), PC
» Buy it from: Online **» Buy it for:** £6.99

Here's a 2D fighter that adopts the rather lovely Neo-Geo Pocket Color aesthetic, with a two-button control scheme plus character sprites that have big, expressive faces and three whole colours. *Pocket Rumble* attempts to be friendly to beginners. All eight characters play differently, but their four special moves are activated with the same simple inputs – diagonal down-forward or down-back and one of the two buttons. However, combo timing is somewhat punishing and CPU players are efficient killers from the very first fight. Coupled with a slightly barebones presentation – no character endings and only a basic career mode – we can't help but feel that *Pocket Rumble* shows promise but needed a little more time in the dojo.



Score 75%



Tempest 4000

» System: PS4 (tested) PC, Xbox One
» Buy it from: Online
» Buy it for: £15.49 (Steam) £24.99 (consoles)

Jeff Minter's latest evolution of *Tempest* will feel familiar to anyone that played *TxK*. Sure, there are additional Atari logos, 4k visuals and the inclusion of the *Tempest 2000* tunes, but make no mistake, this is still the same brilliant blaster from 2014, but it's had a few tweaks, not all of which we're keen on. Weirdly, the claw feels like it has a little more inertia than it did in the original *TxK*, which does take a while to adjust to. There's a bigger focus on onscreen pyrotechnics as well, which makes it tougher to get 'into the zone'. The price is the killer however, which is bound to put off some. We'd argue it's still worth it though, as few coders manage to deliver this sort of blasting bliss.

» **Score 90%**

» [C64] It's a game of two halves and eight sticks.

» [C64] Hopefully there aren't any speed cameras on this road.

FAR TOO ENERGETIC

Discussion website Forum64.de has been running a C64 games competition for a while now, but the 2017 iteration of this event saw it collaborating with publishers Protovision and seven games made it to the finishing post a couple of months ago. Each iteration has a theme, which was 'sports' this time, and developers were reasonably free to interpret that as they saw fit, so releases covered a range of real, simulated and fictional sporting events.

First off we take to the slopes with a vertically scrolling skiing game called *Downhill Challenge,* which offers multiple runs to traverse, different game modes and some colourful graphics. Set on a course set somewhere in darkest north Yorkshire, *Beechings Golf & Country Club* is also visually impressive but came as something of a surprise, being a *Leaderboard*-inspired golf game for up to four players which looks to have received a significant amount of work. And while it's much simpler technically, *BasicBall* is a basketball penalty shootout written in BASIC where angle and power must be selected before taking a shot.

There are a couple of stranger entries as well, one-on-one beat-'em-up *Kung Fu Pixel,* features some very blocky graphics because, as the intro explains, the entire game is actually running with the screen disabled. And the format of *Dangerous Sports Deadly Sports* is a little reminiscent of the multi-event games from Epyx in the early Eighties except each of the sports is likely to kill the participant; there are six factions to choose from with each having a speciality and events include train surfing, base jumping and avalanche skiing which is basically a downhill race while pursued by a wall of snow.

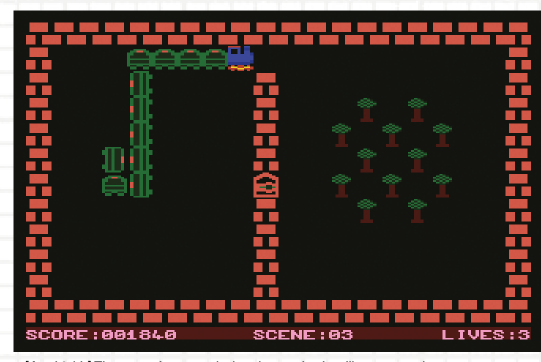
Spin All Four Table Soccer is literally that, a table football game for one or two humans where the nearest pole full of footballers to the ball can be moved vertically or spun around to take a kick. And while it might be a flagged as a pre-alpha version and currently full of graphical issues, *El Loco Challenge* is a one or two-player racing game very much inspired by *Lotus Turbo Challenge.* There does seem to be quite a bit more work required to finish it off, but what's there so far still seems quite fun to play and we will be keeping a keen eye out for a more complete version in the future. Entries are available behind Kikstart.eu/forum64-2017.



» [C64] Our golfing prowess hasn't come to the fore so far.

NEW GAMES NEEDED

If you have a homebrew project you would like to see featured then please contact us at: **retrogamer@futurenet.com**



» [Atari 8-bit] There aren't any tracks but the service is still pretty good.

CHUGGA CHUGGA

***Train* is a cute little action game similar to *Nibbler*, with a locomotive which needs guiding around the play area to collect assorted items.** Each of these turns into a wagon when picked up and the loco must avoid colliding with anything it's towing or static hazards. Gather all of the items and an exit opens to the next, more difficult stage.

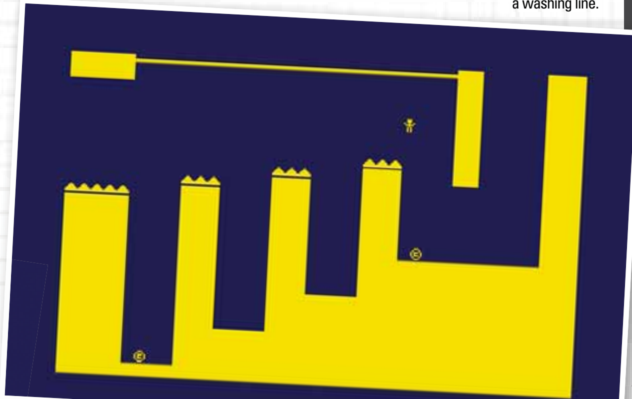
It's not amazing visually, but we have given it a quick play and it seems to be pretty good stuff at a first glance. Why not stop for passengers and a download at Kikstart.eu/train-a8.

"It's easy to become distracted and start working on a new idea"

20-SECOND LETTER

How about a conversion of Terry Cavanagh's puzzle-based platformer *VVVVVV* for the Amstrad CPC? That's what CPCWiki forum member pmeier has come up with and, as with the original, the result is a deceptively simple looking but challenging game with plenty of dangers to avoid.

It's using levels which were originally designed by Markus 'Notch' Persson – a name that may be familiar to fans of *Minecraft* – and there's even an online version. A link to that and further information can be found at the relevant forum post behind Kikstart.eu/vvvv4k-cpc.


» [PC] Feline frolics while hanging from a washing line.



» [C64] Star bonuses are so tempting but watch out for the asteroids.

HOMEBREW HEROES

Jay Aldred has a history developing games for the C64 but we fancied a chat about his most recent title Galencia, since it was recently the first C64 game to appear on Steam - Kikstart.eu/galencia-steam



What originally prompted you to develop *Galencia*?
I have always had a love for *Galaga* and had been a little disappointed with the available options for the C64. With careful planning I thought I could expand the *Galaga* idea and design around the C64's strengths instead of shoehorning in something that wouldn't work. Lots of games try to be too ambitious, sometimes this was out of the team's control if it was a conversion for example.

How long does a game like *Galencia* take to make and who was involved?
I had not worked on the C64 for around 25 years, but after making the decision to write a new C64 game, it all came back to me pretty quickly. I spent a few weeks brushing up on my knowledge and exploring the available tools, I decided on CBM Prg Studio by Arthur Jordison as my development system – I have switched to Kick Assembler for newer projects. I started working on *Galencia*, from this point to shipping the digital version was around seven months. Design by Jason Aldred, music by Pulsebot, graphics by Saul Cross, box art from Lobo and Protovision by Jakob Chen-Voos.



» [C64] The boss has a couple of friends with big lasers.

What challenges were there during development?
Like all blossoming projects, the main challenge is staying focused and making sure all other team members are too! It's very easy to become distracted and start working on that shiny new idea that doesn't have any tricky problems to solve! This was even more challenging as two team members are on the other side of the Atlantic Ocean. To speak to the USA members, I often had to sleep from 5pm to 11pm and start my day at midnight.

Technical challenges included the NTSC version, with the very tight timings for the sprite multiplexer and the reduced vertical border space, I had to rework all of this to get everything silky smooth for NTSC users. *Galencia* was also the first project that Protovision used the Gmod2 cartridge for, the first Protovision game on cassette and also the new big box packaging had been used, lots of teething problems! Working closely with Jakob, I think we got everything perfect in the end.

How have gamers reacted to *Galencia*?
It has been solidly reviewed across the board, winning two Game Of The Year awards. The real reward was the reaction from the actual gamers out there, I have a wonderful collection of photos, including a *Galencia* Christmas tree topper from Texas, the game has travelled more than me.

We believe you're working on a sequel, what can you tell us about it?
Khaos Sphere is much more ambitious than *Galencia*, instead of supporting all mediums, this time it will be 512K cart only, opening doors for the team to be creative.

We have three types of games included on the cart, a vertical scroller, a *Gyruss* styled game and also an upgraded and refined sequel to *Galencia*!

Tie this together with two versions of every tune, supporting both SID chips, an army of artists and an engaging story. I think we have something unique on the way.

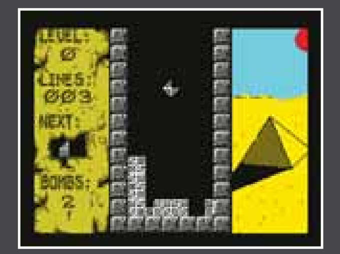


·DO YOU· REMEMBER?

There are plenty of *Tetris* variants out there, but *Pyramid* on the ZX Spectrum from 1996 does something unusual. Rather than just building all of the pieces from squares the developers decided to throw some triangles into the mix.

As with any tweak to Alexey Pajitnov's iconic original design, the new shapes change the game considerably and mean that there are ways to actually lose control of a line since there's no aftertouch when a shape lands and they can't be nudged to fill spaces where triangles have landed on their point. The only option to deal with those stressful situations, then, is deploying one of the limited stock of block-destroying bombs.

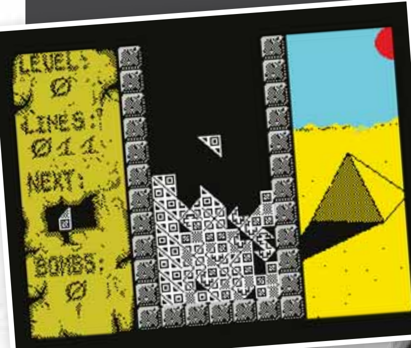
If you find *Tetris* too easy and want something similar but more challenging, you might want to give Pyramid a try. Head on over to Kikstart.eu/pyramid-spec.



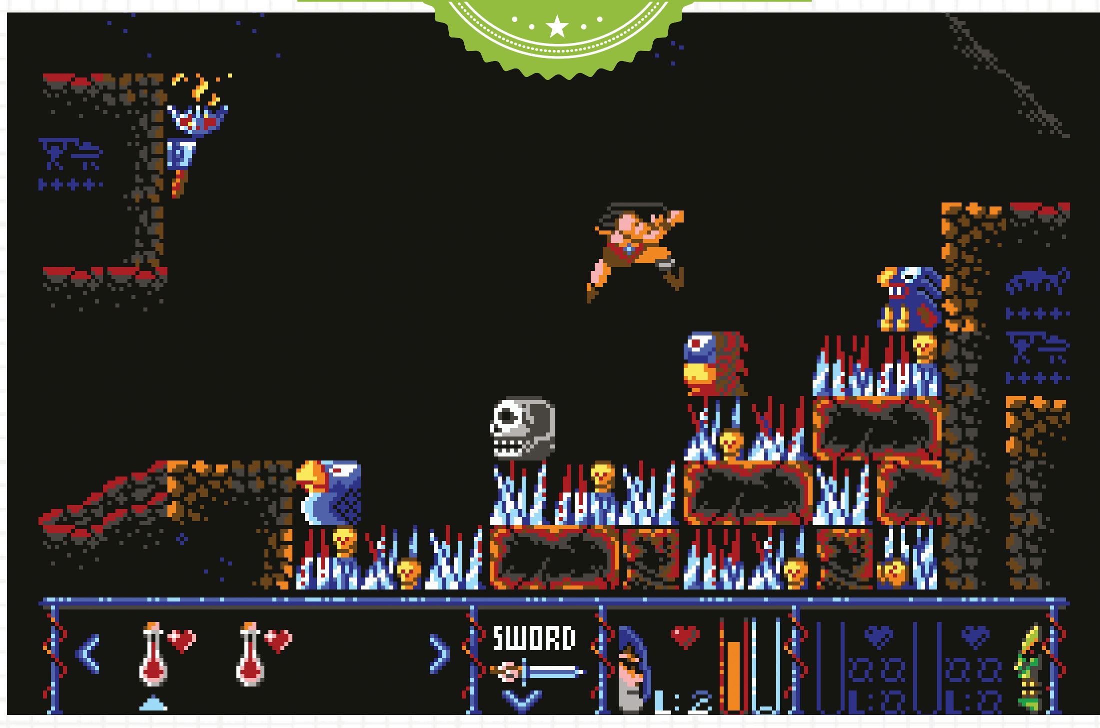
» [ZX Spectrum] What exactly are we meant to do with this piece?



» [ZX Spectrum] Things are slotting together, at least most of the time.



Gaming REVIEWS



THE SWORD OF IANNA

» **PLATFORM:** MSX2, ZX SPECTRUM » **DEVELOPER:** RETROWORKS » **DOWNLOAD:** KIKSTART.EU/IANNA-MSX2-SPEC » **PRICE:** FREE



» [MSX2] The skeletons are dead but still take a lot of punishment.



» [ZX Spectrum] A little light relief, using the door lever to squash a skeleton.

Long ago, the world was ruled by the Lord Of Chaos until he was defeated by the brave warrior Tukaram wielding a powerful, sacred sword given to him by the Goddess Ianna specifically for this task. For centuries after that time Tukaram's lineage acted as servants to the goddess, standing ready for the return of the dark lord and, should he rise once more, to journey forth on the arduous quest to reclaim the now-legendary Sword Of Ianna before going into battle and defeating the forces of Chaos again.

There's some complexity to the controls here. When not holding his sword, our muscular hero walks or, if the button is held down, runs while upwards diagonals will make him jump and the vertical controls on their own climb up or down to ledges. Pressing the second fire button will unsheathe the sword and a fighting stance is adopted, so movement becomes slower and is limited to shuffling left or right, but combining the fire button and a direction slashes at whatever happens to be standing in front of the player.

Tukaram's descendent has a long trek ahead through perilous lands inhabited by foul creatures and defeating The Lord Of Chaos is a daunting task, which isn't going to be over in five minutes. There are a few moments in there where players may feel like they're fighting the control system rather than anything sent to stop them, especially when dealing with the *Raiders Of The Lost Ark*-style boulders which seemingly come out of nowhere and leave you very little time to react. We found it noticeably easier to deal with those moments using keyboard control rather than a joystick, since hitting the precise diagonals required was less tricky.

The Sword Of Ianna comes in two flavours for 128K-equipped Spectrums and the MSX2 with 128K of video RAM. Obviously there are noticeable graphical differences between the two – both still make good use of the system they're running on – but the core gameplay remains the same, as does the excellent music.

» Score **82%**

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 RetroGamerUK  @RetroGamer_Mag  darran.jones@futurenet.com

TIME PILOT

» **PLATFORM:** ATARI 8-BIT
» **DEVELOPER:** NEW GENERATION » **PRICE:** FREE
» **DOWNLOAD:** KIKSTART.EU/TIME-PILOT-A8



» [Atari 8-bit] It's a UFO, but there's no sign of Gerry Anderson.

Time travel is a dangerous thing, particularly if visiting some of Earth's less civilised moments; operators can materialise from the vortex only to be shot down and, assuming they can get to safety, are then stranded without their craft in the wrong timezone. That's where the *Time Pilot* comes in, jumping around between five points in history from the 20th and 21st centuries to save these downed temporal aviators.

Based on the Konami coin-op of the same name and claiming to be an arcade perfect port, *Time Pilot* for the Atari 8-bit is a multidirectionally scrolling shooter where the time ship is tasked with catching parachuting pilots while dodging or blasting enemies and their projectiles. After a quota of planes, helicopters or UFOs have been dealt with, a larger craft appears and, when this is destroyed, the time engines can be enabled for a jump to the next battle.

 Score **90%**



» [Atari 8-bit] Putting 1940s fighter planes up against time craft from the future seems a bit unfair.

BUDDHAGILLIE

» **PLATFORM:** MSX » **DEVELOPER:** GW'S-WORKSHOP
» **DOWNLOAD:** KIKSTART.EU/BUDDHAGILLIE-MSX » **PRICE:** FREE

This is a shoot-'em-up where the player doesn't have a projectile weapon of their own, instead they play Buddha, flying through the ominous-sounding Six Realms and wielding an impressive-looking sword which can slice the smaller enemies in two or be used to gather projectiles to use as an attack against larger opponents.

Getting used to the control system is essential. Buddha can't be moved while the sword is being swung for example, but its momentum carries him forward a each time so flailing at a wave of enemies also shuffles the sprite closer to danger.

This is a pretty tough game and not particularly forgiving on the collision detection front, but should still prove to be a fun if occasionally frustrating experience for more experienced fans of shoot-'em-ups; the unusual combat system and theme also make it an interesting take on the shooting genre.

>> Score **74%**





» [MSX] Buddha indulges in a little airborne swordplay at the weekend.

ROUNDUP

***Minesweeper* seems to be making something of a comeback in homebrew circles and the latest iteration is for the Apple II from programmer Charles Mangin.** Have a search at Kikstart.eu/minesweeper-a2 to avoid blowing things up.

On a slightly more unusual note, we've got *Poodle Jump*, a vertically scrolling action platformer where the player's delightfully animated poodle has to travel upwards, jumping between platforms – without lingering on the collapsible ones – and using the occasional spring for an extra boost. It's still ongoing, but there's a playable version at Kikstart.eu/poodle-2600.

Finally, there's not much to see at the time of writing but developers Black Jet have started a conversion of Dave Hughes' Spectrum platformer *Endless Forms Most Beautiful* to the C64. Have a quick peek at the diary behind the link Kikstart.eu/efmb-wip-c64.

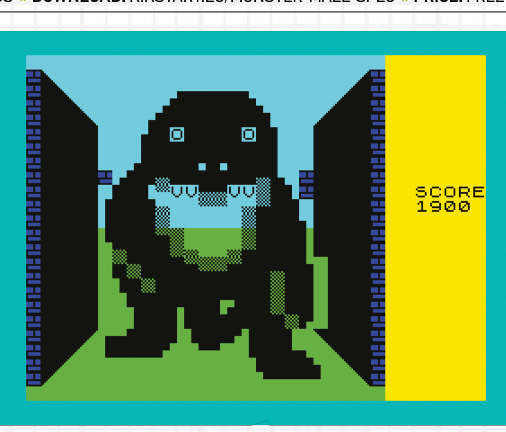
3D MONSTER MAZE

» **PLATFORM:** ZX SPECTRUM » **DEVELOPER:** RICHARD DODDS » **DOWNLOAD:** KIKSTART.EU/MONSTER-MAZE-SPEC » **PRICE:** FREE

***3D Monster Maze* for the ZX81 is often cited as one of the first survival horror games before that term was even coined and there's now a version for the Spectrum which retains all of the original's positives and adds a splash of colour.** As with the ZX81 version, the player is dumped into a maze and must find the exit before a tyrannosaurus quite literally catches up with them for lunch.

There's no sound in the game so all of the atmosphere and tension comes from knowing that a vicious creature is out there somewhere – there's thankfully a map of the maze available during play showing his position relative to both the player and level exit - along with the subtitles including "footsteps approaching" and "Rex has seen you" which appear at the bottom of the screen; the latter on their own can get the adrenaline pumping.

>> Score **87%**



» [ZX Spectrum] Now would probably be a really good time to run away.

MAILBAG

HAVE YOUR SAY… SEND US A LETTER OR MAKE YOURSELF HEARD ON THE ONLINE FORUM – **WWW.RETROGAMER.NET**

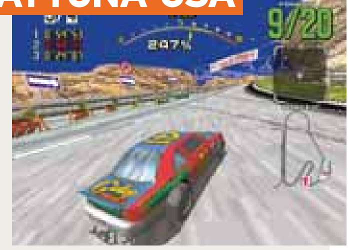
WIN!

Every month, one lucky writer-in will receive a spanking copy of either our NES/Master System or SNES/Mega Drive books



TEAM PLAYS

DAYTONA USA



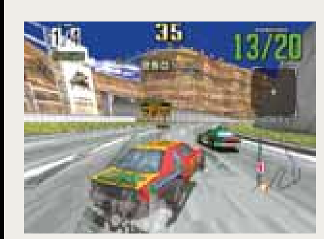
Which of us was able to fly sky high this month? We took to a time trial contest on Dinosaur Canyon to find out…

NICK 3'12"73
Given that I spent a whole week playing the game for the cover feature, I had a lot more practice than everyone else. So, I kind of feel like a bit of a cheatyface here. [I agree - Ed].

SAM 3'14"06
I found it much easier to control drifts in manual - it just takes a bit more practice. I can put it some super-quick 46-second laps… I just struggle to do four of them in a row!

DREW 3'16"92
I took my cues from Sam and opted for manual transmission for better control over my speed, and it paid off. I honestly thought I'd spin out on this challenge but I'll take third!

DARRAN DISQUALIFIED
Maybe it's because I've managed to catch a cold in the middle of summer, or maybe it's because I'm terrible, but somehow I've been unable to complete four whole laps. The shame…



» [Arcade] The final corner is easy to misjudge, and was often Sam's undoing!

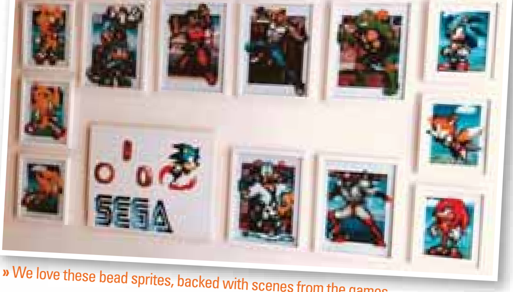
MEGA MURAL

Dear team,
When I first found out about **Retro Gamer** I immediately subscribed late last year – and you haven't disappointed. I have this (slightly weird) ritual of smelling the inside pages of your magazine when I open it as it reminds me of the gaming magazines I would buy as a kid (nostalgia and all).

In June's edition you touched on something close to my heart, the Sega Mega Drive. I still remember the time when I first saw a Mega Drive at my mate's house (in Sydney, Australia by the way)… it wowed me and I knew immediately I needed to get one. Given it followed me from childhood all the way into my teen years – whilst I have owned many consoles – this one holds a very special place in my heart, so I really appreciated your article and the great level of detail you went into putting it together.

Your article inspired me so much I finally finished my Sega wall 'mural' in my apartment!
Nick Prodanovic

We're glad to hear you enjoyed the Mega Drive feature, Nick. Also, we like how you've decorated there! Drew especially will appreciate the presence of Sparkster – as he's a big lover of *Rocket Knight*. We're all players who want to share our passion for classic games, so thank you for sharing – it's great to know we played any part in inspiring something cool like that.



» We love these bead sprites, backed with scenes from the games.

MICRO MANIAC

Dear **Retro Gamer**,
Firstly, a big thank you for having a letters page still. So many publications have either dropped them or don't bother to have them at all. I requested a letters page in one publication I buy, and the editor said he'd put a call out for letters. He never did. And, thus, he doesn't receive letters. Catch-22? It's great to read other people's views. Even in an age of forums and social media, it's nice to have a collection of viewpoints gathered together on one page; plus, in years to come, people picking up back issues will be able to get a feel for what today's readership thought about games. Keep up the good work.

Have you ever done a feature on *Micro Machines*? Starting off as very tiny toy cars (if you lost them, that was it), the franchise eventually 'migrated' to the videogame world. There have been a few games, but I don't think you can beat 1991's *Micro Machines* game for the NES. That game gave me hours of fun, and was one of the most addictive games of the time.

STAR LETTER

COLLECTOR'S CONCERN

Dear **Retro Gamer**,
What's happened to the section where people show off their collections? I was fascinated by seeing the different stuff people had collected.

On that note here is my recently completed PAL Dreamcast set. I managed to get the last game from a gaming market, amazing place to go and a great experience. Do your writers ever go to them?

Would love to see an article on *Virtua Tennis*, one of my favourite Dreamcast games…
JoJo McNeill

We'd love to do something on *Virtua Tennis* in the future – it's a great game that became a fantastic series, and we've sunk more hours than we care to count into the world tour modes over the years.

As for Collector's Corner, we're currently looking at ways to change up our community content, and collectors are very much a part of that – expect to see it back soon. In the meantime, we applaud your achievement in putting together the complete Dreamcast set. Both Nick and Darran have had that goal in the past, but neither ended up finishing it. When we asked Nick why he quit, he mumbled something about not having the commitment to own two *ECW* wrestling games.

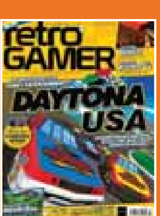
We haven't made it to one of the gaming markets yet, but you'll occasionally see us at events. Of course, now you've got to pick a new target for your next trip to a gaming market – maybe a bookazine will help?



» JoJo McNeill's PAL Dreamcast collection is certainly impressive – look for Collector's Corner to return soon.

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You would have my eternal and undying gratitude if you were to do a feature on *Micro Machines*.
Stephen Parry

Hi Stephen, glad you enjoy the Mailbag. We've been thinking about new ways to get community content into the magazine too, with this month's How To section being the start of that.

We're big fans of the *Micro Machines* series, and have done three major features on its games in the past. Those were The Making Of *Micro Machines* in issue 79, The History Of *Micro Machines* in issue 113, and The Making Of *Micro Machines 2* And *Turbo Tournament* in issue 151. We also took a brief look at *Micro Machines V3* in a Classic Moments spread recently, in issue 182.

REVISIONIST HISTORY

Hello,
To follow on from issue 182, inside the Mega Drive article, I am wondering why there were different versions of *Sonic The Hedgehog* released for the Mega Drive back in the day?

I have a *Sonic* cartridge that has moving clouds in the background on Green Hill Zone but the same background clouds are static on another version of Sonic featured on a compilation cartridge. Also an underwater effect is present in one version of Labyrinth Zone but on the other six-game cartridge version it just has a still look (no wobble). Why would that be? I assume changes of this sort would mean more trouble than it's worth for devs, so why did they bother?

It makes me wonder, do any other games have differences between versions that have gone unnoticed by gamers? If so, it might make a good feature in a future edition of **RG**.
Robert McMillan

Unusually for its time, *Sonic* was released in the US and Europe before Japan. With the extra time before the next production run started, Sonic Team took the opportunity to tidy up the code and add a couple of cool effects with the clouds and ripples. We're not sure why the older version was used on multigame carts though.

Revising games is a pretty common practice, and we'll always note if there are major changes, – like with *Pengo*'s 'Popcorn' theme a few issues ago.

DISCUSSED THIS MONTH

The World Cup

Inflated expectations of years past cast aside, nobody was too enthusiastic about watching England (save for Darran's morbid interest in seeing a catastrophic failure and Drew's failure to realise the World Cup was actually happening). But then the team showed some character, we got excited, but ultimately got knocked out in the semifinals.





» [PlayStation] Some revisions don't alter game content – *Tiger Woods PGA Tour Golf '99* version 1.1 removed a dummy file containing a *South Park* episode.



From the forum

Every month, Retro Gamer asks a question on the forum and prints the best replies. This month we wanted to know…

What's your favourite Daytona USA song?

The Laird
Nothing will ever beat the cheesefest of *Let's Go Away* – NOTHING EVER!

mr jenzie
The game over music. I was complete toss at this game!

deadpan666
G,A,M,E,O,V,E,R, GAMEOVER, gameovergam eovergameovergameover!

Dennison Seeto
Sky High from Expert Stage. I never heard it properly on the arcade version (I guess it was muffled by all the other machines), but when I played it on the Saturn it was loud and clear!

Benji Copeman
Why are you cruel in that we can only pick one song?

Vince White
For me it has to be *Rolling Start*. It reminds me of late 80s New Order mixed with Brazil playing in the World Cup.

Simon Che Rodriguez
The main song. Let's face it… the whole *Daytona USA* (videogame) soundtrack is GREAT!



» [Saturn] Sing along! You might think that you don't want to, but you're wrong. Give it a go. Why?



» Because if you sing along, you could be as happy as Takenobu Mitsuyoshi – and doesn't he look incredibly happy here?

retro GAMER

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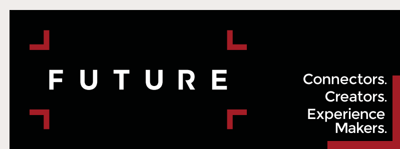
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HOW TO

QUICK GUIDES TO HELP YOU GET THE BEST FROM YOUR GAMES

HOW TO...

CLEAN YOUR CARTRIDGE CONTACTS

Have you got a cartridge that constantly throws glitches at you – or worse yet, won't start at all? If so, it's probably because of dirty metal pins. Let's get them shiny and new again...

NT

DIFFICULTY

●○○○○

EASY, *FIVE MINS (PLUS DRYING TIME)*

WHAT YOU'LL NEED

1 ISOPROPYL ALCOHOL FOR ELECTRONICS CLEANING

2 COTTON BUDS

3 SCREWDRIVERS *(OPTIONAL)*

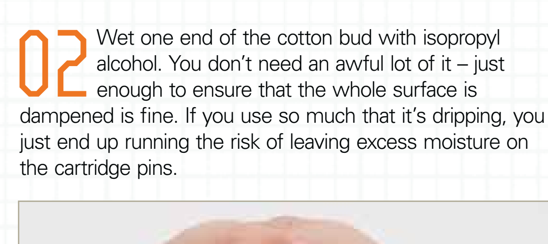


DON'T FORGET...

» If you're holding a bare PCB, hold it by the edges and don't touch the metal contacts.

» Isopropyl alcohol can be dangerous if misused – take care to read the warnings on the container.

01 If the metal pins on your cartridge are difficult to access, you will need to open up the casing. You might even want to do it just to be thorough. Depending on the system, you may need a specialist tool – most Sega and Nintendo carts require a 3.8mm or 4.5mm 'Gamebit' screwdriver.



02 Wet one end of the cotton bud with isopropyl alcohol. You don't need an awful lot of it – just enough to ensure that the whole surface is dampened is fine. If you use so much that it's dripping, you just end up running the risk of leaving excess moisture on the cartridge pins.





03 Starting from one end of the cartridge, rub the wet end of the bud vertically up and down the pins a few times. You only need to cover the shiny metal area – anything under the green solder mask isn't going to make contact with the cartridge connector anyway.

04 Once you've cleaned the whole connector and thoroughly blackened your cotton bud, wipe over the pins with the dry end of the cotton bud to pick up any excess moisture then leave your game to dry. We'd recommend you leave it for at least 15 minutes.



Something you'd like to see a guide for? Contact us at:
RetroGamerUK @RetroGamer_Mag retrogamer@futurenet.com

MYTHBUSTER

Everything you know is a lie

MYTH: This is going too far – I've always just blown on the cartridge and I've never had any problems.
FACT: Blowing on a cartridge can seem to work – and if it does, it's because adding a slight layer of moisture from your saliva temporarily improves the electrical connection between the cartridge and connector. However, this isn't good for the long-term condition of your cartridges. A somewhat non-scientific test on the Digital Press forums revealed that some nasty stuff can end up growing on your cartridges as a result of blowing on them, after just two weeks of daily use.

MYTH: I don't have isopropyl alcohol – but it won't matter if I just use window cleaner or something, right?
FACT: We'd strongly recommend against it – those products contain chemicals that can damage your cartridges. Isopropyl alcohol is sold for a number of purposes, and cleaning electronics is a widely recognised one. It can be bought cheaply and, when used in the quantities needed for cartridge cleaning, will go a long way.



05 Pop the cartridge in the system and test it out! Your game will probably work a lot better – but if it doesn't work, start from step three again. Particularly grimy carts may well need a few cleaning runs, but we've even had success with Neo-Geo MVS carts covered in arcade crud.

WHAT NEXT?

- » If you're having problems with more than one game, it might be the cartridge slot that's at fault. Try cleaning that too.
- » In rare cases, the problem may be with a dodgy trace elsewhere on the circuit board, or a poorly soldered chip. Repairing these problems will require some soldering.

SEND US YOUR QUESTIONS

Do you want to clean a console but are too scared to open it up without guidance? Do you want to back up your cartridges but don't know how? Send us your questions and the best ones will feature as a full How To guide, just like this one. Reach us at retro.gamer@futurenet.com.

YOUR QUESTIONS ANSWERED...

A selection of smaller questions from readers...

ARCHIVIST AGONIES

I use Collectorz to inventory my games, but the games are priced by the American market. Is there a UK equivalent?
No Face Gamer via Twitter

We looked at a variety of apps and websites, but couldn't find any that offer value tracking based on the UK market. App developers out there: how about including this option?

CLEANING CASES

I'd be interested in the best way to clean the cases themselves. I collect Master System games and am always worried about the things I'm using in case they damage the plastic.
Mike Harding via Facebook

For plastic cases like those, you shouldn't have a problem with plain washing up liquid and water – the important thing to remember is to get a paper towel under the flexible sleeve (where the printed insert would go) while it's drying, otherwise the water is trapped and takes forever to dry. If you just need to remove stickers and labels, products like AF Labelclene are effective.

NO LOVE LOST

How about, 'How to stop your wife moaning at the size of your games collection?'
Scott Henderson via Facebook

Find out why your wife is unhappy and try to reach a compromise – for example, if space in the house is the problem, you could consider building a shed as an external games room. Remember, any relationship must be built on a foundation of solid communication. Alternatively, Nick finds that being single is an effective way of ensuring that he never has to worry about a spouse's concerns, but you may feel this is perhaps rather too drastic.



» Darran's game collection was exiled out of his house, so he decided to build a shed to house it all. It's a great option for those who have the space and resources.

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PENGO

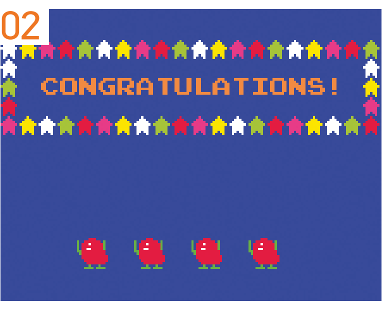
» When Sega decided to revive one of its golden oldies for its first ever handheld console, Pengo was a fine choice. The simple maze gameplay was perfect for gaming on the go, and penguins are universally appealing (even to people who dislike penguins). However, things started to go a bit wrong when adding new features – including an ending sequence. Let's flash back to Sega's headquarters in early Nineties Japan…

01



» Having successfully put together the rest of the game, the programmer just needs to create an ending. But this is where the art director chooses to make his mark. "So, my pretty Pengos – could you do a dance for me?"

02



» Our heroes oblige, and everything looks like it'll be fine. But that's when marketing gets involved. "Could we make this more youthful and contemporary by focusing on their butts? Yeah, let's have some twerking penguins please."

03



» The director isn't a fan of this direction, though. "I'd really like something that mixes cuteness with intensity. Is that something you could try?" Surprisingly, the cutesy Pengo quartet doesn't struggle to pull off the requested icy glare.



04

» The team is just about ready to write this new build to EPROM for testing, but the producer happens to walk by. "I'm not really feeling the thing with the four Pengos, could we cut that down? Also, play around with some props to get some different shades of blue in there. Thanks!"



05

» At this point, the postman turns up with the latest issues of *Famitsu* and *Beep! Mega Drive*, before noting that he thinks the left penguin would work better in the middle. The producer agrees. The programmer calmly leaves his seat, picks up his Game Gear and drops it into a boiling kettle.



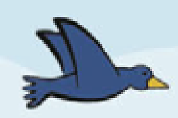
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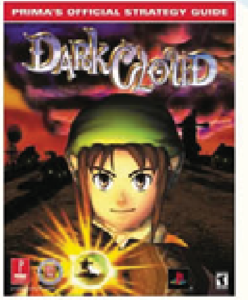
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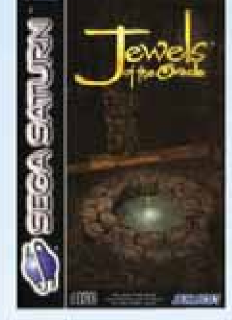
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